A STUDY TO ASSESS THE EFFECTIVENESS OF PET THERAPY ON DEPRESSION AMONG OLD AGE PERSONS RESIDING IN SELECTED OLD AGE HOMES AT COIMBATORE.

By

30083242

DISSERTATION SUBMITTED TO THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

MARCH-2010

CERTIFIED THAT THIS IS THE BONAFIDE WORK DONE

BY

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CHERRAANS COLLEGE OF NURSING,
COIMBATORE, TAMILNADU.

SUBMITTED IN PARTIAL FULFILLMENT OF REQUIREMENT
FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING
TO THE TAMIL NADU DR. M.G.R. MEDICAL
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ABSTRACT

"A study to assess the effectiveness of pet therapy on depression among old age people residing in selected old age homes at Coimbatore district was conducted for the partial fulfillment of requirement for the degree of master of science in nursing at Cherraan's College of Nursing, Coimbatore under the Tamilnadu Dr. M.G.R. medical university, Chennai, in the year 2010.

THE OBJECTIVES OF THE STUDY WERE

1. To findout the level of depression experienced by the old age people before pet therapy in experimental group and control group.

2. To assess the effectiveness of pet therapy by comparing the pre and post test scores of depression among old age persons in experimental and control group.

3. To find out the relationship between pre test and post test score of depression among experimental and control group.

4. To determine the association between post test level of depression and selected demographic variables such as age, sex, religion, education, previous occupation, marital status, type of family, duration of visit by the family members, hobbies and reason for staying in the old age home in experimental group.

5. To determine the association between post test level of depression and selected demographic variables such as age, sex, religion, education, previous occupation, marital status, type of family, duration of visit by the family members, hobbies and reason for staying in the old age home in control group.

THE FOLLOWING HYPOTHESES WERE SET FOR THE STUDY

All the hypotheses were tested at 0.05 level of significance.

H1— The mean post test level of depression score of experimental group will be significantly lower than the mean pre test level of depression score after administration of pet therapy among old age persons.

H2 – There will be positive relationship between pre test and post test scores of depression among experimental and control group.

H3—There will be an association between the post test level of depression among old age persons and selected demographic variables (age, sex, religion, education, previous occupation, marital status, type of family, duration of visit by the family members, hobbies and reason for staying in the old age home) in experimental group.

H4 - There will be an association between the post test level of depression among old age persons and selected demographic variables (age, sex, religion, education, previous occupation, marital status, type of family, duration of visit by the family members, hobbies and reason for staying in the old age home) in control group.

METHODS

An evaluative research approach and quasi – experimental, non equivalent control group pre test, post test design was used in this study. The study was conducted in Ram Aravindar Old Age Home and St. Joseph's Old age home at Coimbatore. The sample size was 60 old age persons among them 30 were experimental and 30 were control groups, aged above 60 years. Purposive sampling technique was used to select the sample.

Data collection tool consisted of demographic variables, and Modified Geriatric Depression Inventory Scale was used to assess the level of depression among old age persons.

The tool was given to five experts for content validity. Reliability of the Modified Geriatric Depression Scale for both experimental and control group were established by split half method. The reliability of Modified Geriatric Depression Scale for experimental group were $\underline{r}$=0.92. The reliability of Modified Geriatric Depression Scale for control group were $\underline{r}$=0.91. So the tool was found to be reliable one. Pilot study was conducted in Mother Care Centre old age home at Velandipalayam to find out the feasibility of conducting the study. Both descriptive and inferential statistics were used to analysis the data. The findings of the study revealed that the level of depression was reduced significantly in the post test greater than pre test.

RESULTS

1. The mean depression score among experimental group pre test was 16.87 and standard deviation was 3.627.There was reduction in depression after the administration of pet therapy, which was evident by the mean post test score 11.53 and standard deviation 3.683.
2. The 't' value 17.736, $p<0.05$ shows that there was significant reduction in depression in the post test because of effectiveness of pet therapy.
3. There were positive relationship between pre test scores and post test scores of depression among experimental group 'r'=0.899 and control group 'r'=0.932.
4. There was a significant association between post test level of depression score of experimental group and their selected demographic variables like sex ($\chi 2 = 7.694 p<0.05$) and hobbies ($\chi^2 = 6.748 p<0.05$). Hence the stated research hypothesis was accepted.
5. There was a significant association between post test level of depression score of control group and their selected demographic variables like sex ($\chi 2 = 6.020 p<0.05$).

INTERPRETATION AND CONCLUSION

The overall findings suggested that the majority of old age persons had moderate depression. Pet therapy was effective in reducing depression among old age persons. Hence it can be concluded that pet therapy was highly effective in reducing depression of old age persons those who are residing at old age homes.

Based on the findings of the study following recommendations were suggested.

- A similar study can be replicated on large sample size.
- A similar study can be done in different settings.
- A similar study can be done in different population.
- A similar study can be replicated for long duration.
- A similar study can be done by using quasi-experimental one group pre and post test study.
- A similar study can be done among old age persons residing at community area.
- A similar study can be done by increasing time duration and sections of pet therapy.

CHAPTER I

INTRODUCTION

"Let's add live to their years."

BACKGROUND OF THE STUDY

"You do not heal old age. You protect it; promote it; you extend it".

Sir James Sterling Ross

Ageing is a universal phenomenon, which is experienced by every human being across various cultures. The experience of ageing is unique to every individual because of the individual differences in personalities, varying social support networks and differing according to the culture to which one belongs. Also aging involves many major life changes and is a psychological step, or a transition, that alters one's relation to the world and demands new responses.

The Indian family has traditionally provided natural social security to the old people. However, in more recent times, the traditional role of the family is being shared by institutions such as old age homes. Many of the elderly parents are compelled to leave their children and stay in old age homes. The old age homes, which were a rarity, have recently spread across the country, a fact that indicates the growing rift between the generations.

According to the survey conducted by the Madras Institute of Ageing, there were 529 old age homes in India in 1995 (Krishnan Nair, 1995). Help age India has reported that there were 700 old age homes in 1998 (Help age India, 1998). Our discussion is based on data released by the Madras Institute on Ageing. India had only 96 old age homes before 1950; another 94 were added in the next two decades (1951-70). During the next two decades, there was a rapid expansion in the number of old age homes in the country y. As of 1995, Kerala State led the rest of the country with 102 old age homes, followed by Tamil Nadu (94) and Maharashtra (65). South India

(Kerala, Tamil Nadu, Karnataka and Andhra Pradesh) accounts for 275 old age homes forming 52 per cent of the total.

Elderly depression can be quite common as ageing presents its own set of challenges - many elderly people have to face some very difficult situations where certain health conditions could be taking a toll on the person on the one hand and, on the other, failing health or death of a spouse could contribute heavily to depression in the elderly.

Sometimes, people who have led a fairly independent life might be required to depend on another because of disabilities and coming to terms with these changes and challenges can be heart wrenching for the elderly. In such cases, it is only natural one begins to feel terribly lonely and in the absence of a support system in terms of spouse, family, and friends, elderly depression sets in during old age.

While it is common for older people to suffer from elderly depression, very few actually seek professional help on time. In the absence of a spouse and children, who are busy with their own lives, everyone fails to pay attention to the subtle signs and symptoms of depression. The general mindset is to attribute these signs and symptoms of elderly depression as part of growing old.

In some cases, however, family members and physicians concentrate more on the physical ailments and complaints rather than look into the emotional side of the problem. Untreated depression can result in serious consequences for the elderly and the family because this can lead to drug abuse or suicide. When treatment is available, depression is completely curable; family and friends should thus pay a little more attention to the older folks and ensure that they get professional help in time.

Some of the causes which contribute to elderly depression are death of a spouse, close friends, a child, or grandchildren often make it extremely difficult for elderly people to come to terms with, resulting in feelings of isolation and loneliness, and leading to depression. Deteriorating physical health and faculties is another reason for elderly depression. Prescribed medications used in treating other conditions might also contribute or become responsible for depression in some cases. Disability, failing memory, and physical appearance also work as factors that trigger elderly depression. Fear of financial insecurity, inability to sustain medical bills and expenses, lack of help and support from children, too, become a cause of concern for many and ultimately they slip into depression.

The above are some of the main factors which contribute to depression in the elderly, but with a little love and support as well as the right intervention, they can overcome the condition, just like anyone else suffering from depression.

Signs and symptoms of depression in the elderly Adapted from American Academy of Family Physicians

Depression red flags include:

Sadness, Fatigue, Abandoning or losing interest in hobbies or other pleasurable pastimes, Social withdrawal and isolation, Weight loss; loss of appetite Sleep disturbances, Loss of self-worth, Increased use of alcohol or other drugs, Fixation on death; suicidal thoughts or attempts, Depression without sadness. They may complain, instead, of low motivation, a lack of energy, or physical problems. In fact, physical complaints, such as arthritis pain or headaches that have gotten worse, are often the predominant symptom of depression in the elderly. They may constantly wring their hands, pace around the room, or fret obsessively about money, their health, or the state of the

world. Older adults who deny feeling sad or depressed may still have major depression. Hopelessness, Helplessness, Anxiety and worries, Memory problems, Loss of feeling of pleasure, Slowed movement, Irritability, Lack of interest in personal care.

So the researcher is interested to use the pet therapy on reduction of depression among old age persons because the prevalence rate was more among elderly persons. Pet therapy will have greater impact on the improvement of the emotional status of old age persons by getting an attachment towards pets and it will change the attitude of elderly persons to accept the old age a global phenomenon.

NEED FOR THE STUDY

Demographic ageing is a global phenomenon. By 2025, the world's population is expected to include more than 830 million people at an age of 65. With a comparatively young population, India is still poised to become home to the second largest number of older persons in the world. Recent statistics related to elderly people in India,(according to census 2001), showed that as many as 75% of elderly persons were living in rural areas. About 48.2% of elderly persons were women, out of whom 55% were widows. A total of 73% of elderly persons were illiterate and dependent on physical labor. One-third was reported to be living below the poverty line, i.e., 66% of older persons were in a vulnerable situation without adequate food, clothing, or shelter.

About 90% of the elderly were from the unorganized sector, i.e., they have no regular source of income. The socio-economic problems of the elderly are nowadays aggravated by factors such as the lack of social security and inadequate facilities for health care, rehabilitation etc. Living arrangements of older people are influenced by several factors such as gender, health status, and presence of disability, socio-economic status and societal traditions. To overcome these problems and to ensure a good, healthy and quality life, the elderly members of the society can move a long way with the support of the family members as well as the other society members.

Old people in India, like those in other countries, suffer from a range of problems.

However, of all the problems associated with an aging population, health care demands the top priority. Ageing is a time of multiple illness and general disability. Along with the changes in the biological compositions, life

style factors are also important for disorders and diseases in old age. Old age diseases are not always curable, implying a strain on financial as well as physical health infrastructure resources. However, the feeling of well- being can still override actual physical discomforts if the surrounding environment is nurturing.

In a study of 460 persons aged 60+, of whom 130 men and 100 women were from 30 villages, and 140 men and 90 women were from two urban centers in Chittoor district of the state of Andhra Pradesh, Kumar (1991) focused his analysis on familial and emotional problems, including health problems.

Taqui A.M et al. (2007) reported in their cross-sectional study the prevalence of depression was found to be 19.8%. Multiple logistic regression analysis revealed that the following were significant ($p<0.05$) independent predictors of depression: nuclear family system, female sex, being single or divorced/widowed, unemployment and having a low level of education. The elderly living in a nuclear family system were 4.3 times more likely to suffer from depression than those living in a joint family system (AOR=4.3 [95% CI=2.4-7.6]).

According to Beal C (2006) older women reported more loneliness than male peers.

Routasalo P.E et al,. (2006) reported that emotional loneliness and social isolation are major problems during old age. Feeling of loneliness was not associated with the frequency of contacts with children and friends but rather with expectations and satisfaction of these contacts ($p>0.05$). The most powerful predictors of loneliness were living alone, depression, experienced

poor understanding by the nearest and unfulfilled expectations of contacts with friends ($P<0.05$).

Savikko N, et al,. (2005) examined the prevalence and self-reported causes of loneliness among Finnish older population. Loneliness was more common among rural elderly people than those living in cities.

Ku Y.C, Liu W.C, Tsai Y.F (2000) reported that depression in the elderly has become a serious health care issue worldwide. The prevalence of depressive tendency was 35.5%.

Chadha and Kanwar (1998) have also mentioned in their study that the institutionalized aged feel lonelier and depressed as they lack social network support and do not feel "the level of kinship" felt by non-institutionalized aged.

Bagga (1997) in her study of all-female old age homes showed that younger entrants to the old age homes feel more depressed than their senior counterparts. Further she added that the residents felt more lonely and depressed in old age homes where they stayed as guests and did not prepare food themselves.

Mishra (1993) found that all the in-mates felt dissatisfied residing in old age homes as they felt segregated from the family and the wider community. They all wanted to go back to their families to spend the rest of their lives with their near and dear ones.

Joseph (1991) made a comparative study of 411 persons: 207 men and 204 women over 60 living with families; 48 men and 44 women aged 60+ living in homes for the aged; and 257 people, 127 men and 130 women, aged 20-50 years in Kottayam district in Kerala. Joseph (1991) identified stereotypes of the aged, attitudes of the young towards them, their problems, including health problems, and their personality and religiosity. 236 P.H. Reddy Supplement to Health Transition Review Volume 6, 1996.

A study by Nair (1989) of 745 persons aged 60+, 375 men and 370 women, from the rural areas of four districts in the state of Karnataka, investigated their socio- economic and emotional problems. Although the main objectives were different, a study of demographic change in south India, employing micro approaches, enquired into support for the aged (Caldwell, Reddy and Caldwell 1988:187-195).

According to the National Institutes of Health, of the 35 million people, age 65 or older, about 2 million suffer from full-blown depression. Another 5 million suffer from less severe forms of the illness.

The prevalence of depression is ranged between 13% and 22% among the elderly.

Although depression in the elderly is a common problem, only a small percentage gets the help they need. There are many reasons depression in older adults is so often overlooked: Some assume seniors have good reason to be down or that depression is just part of aging. Elderly adults are often isolated, with few around to notice their distress. Physicians are more likely to ignore depression in older patients, concentrating instead on physical complaints. Finally, many depressed seniors are reluctant to talk about their feelings or ask for help.

The consequences of this oversight are high. Untreated depression poses serious risks for older adults, including illness, alcohol and prescription drug abuse, a higher mortality rate, and even suicide. So it’s important to watch for the warning signs and seek professional help when you recognize it. The good news is that with treatment and support, depressed seniors can feel better.

By providing the findings of the various literatures made on the health status of elderly, it could able to understand the need for the study.

STATEMENT OF THE PROBLEM

A study to assess the effectiveness of pet therapy on depression among old age people residing in selected old age homes at Coimbatore.

OBJECTIVES

- To findout the level of depression experienced by the old age people before pet therapy in experimental group and control group.
- To assess the effectiveness of pet therapy by comparing the pre and post test scores of depression among old age persons in experimental and control group.
- To find out the relationship between pre test and post test score of depression among experimental and control group.
- To determine the association between post test level of depression and selected demographic variables such as age, sex, religion, education, previous occupation, marital status, type of family, duration of visit by the family members, hobbies and reason for staying in the old age home in experimental group.
- To determine the association between post test level of depression and selected demographic variables such as age, sex, religion, education, previous occupation, marital status, type of family, duration of visit by the family members, hobbies and reason for staying in the old age home in control group.

HYPOTHESIS

H1— The mean post test level of depression score of experimental group will be significantly lower than the mean pre test level of depression score after administration of pet therapy among old age persons.

H2 – There will be positive relationship between pre test and post test scores of depression among experimental and control group.

H3—There will be an association between the post test level of depression among old age persons and selected demographic variables (age, sex, religion, education, previous occupation, marital status, type of family, duration of visit by the family members, hobbies and reason for staying in the old age home) in experimental group.

H4 - There will be an association between the post test level of depression among old age persons and selected demographic variables (age, sex, religion, education, previous occupation, marital status, type of family, duration of visit by the family members, hobbies and reason for staying in the old age home) in control group.

OPERATIONAL DEFINITION

Effectiveness: It refers to the outcome of pet therapy in reducing depression among old age people residing at selected old age homes at Coimbatore.

Pet therapy: It is the utilization of animals and birds which helps in reducing the depression among old age people residing at selected old age homes at Coimbatore.

Depression: The level of mood such as feeling of loneliness, decrease passion for life, feeling of unworthiness which is measured by using geriatric depression scale.

Old age people: Refers to the individual who are above 60 years of age living in selected old age homes at Coimbatore.

Old age homes: It is a place where deserted elder people are looked after with compassion and their basic needs are fulfilled.

ASSUMPTION.

The study is based on the assumption that:

1. Old age people residing at old age homes are experiencing depression.
2. The elderly people those who are residing at old age homes experiencing depression are capable of assessing the depression.
3. Successful administration of pet therapy makes positive changes in the level of depression.

DELIMITATION

The study is delimited to:

1. Old age people those who are residing at selected old age homes at Coimbatore.
2. Old age persons those who are above 60 years.
3. The data collection period is limited to 6 weeks.

PROJECTED OUTCOME.

1. The study will enable to identify the level of depression among old age persons residing at old age homes.
2. Pet therapy will reduce depression for the old age persons those who are residing at old age homes.

CONCEPTUAL FRAMEWORK

Theoretical framework provides clear description of variables suggesting ways or methods to conduct the study and guiding the interpretation, evaluation and integration of study finding, **(Wook and Haber., 1994).**

A Theoretical framework can be defined as set of concepts and assumptions that integrates them in to meaningful configuration, **(Pawcett., 1994)**

This study is based on Imogene Kings Goal Attainment theory, (1997) which would be relevant to improve the level of depression by providing pet therapy among senior citizen with depression in old age home.

Imogene King's system is an "Open' system in this system, humans are in constant interaction with their environment. According to Imogene King each individual on this system has good directed choice of perceived alternatives in made and acted by individuals or groups to attain a goal. It is a process of human interaction in which two people who are usually strangers come together in a health care organization to help and to be helped to maintain a state of health that permit, functioning the roles.

The main concepts in Imogene Kings open system are.

Perception: A process of organizing, interpreting and transforming information from sense data and memory that gives meaning to one's experience represents one's image of reality and influences one's behavior.

In this study the researcher and the subjects were come together for an interaction, a different set of perception to exchange. The researcher perceived through the pretest that the subjects are in need of pet therapy to reduce the level of depression.

Judgment: Each member of the dyad perceives the other and makes judgment for goal attainment. The researcher mobilizes the resources for the provision of pet therapy to reduce the level of depression.

Action: Each member dyad makes judgment and there by action follows to attain goal. The researcher planned to conduct pet therapy to reduce the level of depression.

Mutual goal getting: It is an activity that includes the client and family when appropriates in prioritizing the goal care and in developing a plan of action to achieve the goal. If the senior citizens have pet therapy, they can attain the goal and maintain maximum level of well being. Both, the researcher and subjects mutually get goals to reduce the level of depression.

Interaction: The acts of two or more persons in mutual presence a sequence of verbal and nonverbal behaviors that are goal directed. The researcher communicates with the subjects by implementing the pet therapy.

Transaction: A process of interaction in which human beings communicate with the environment to achieve goals that a value goal directed human behavior. In this model, human are in constant interaction with their environment. Adjustment to life and health are influenced by individual interaction with the environment. Each human being perceives the world as a total person in making transaction with individual and things in the

environment. Separation from the family members, financial factors isolation may affect the psychological well being of the senior citizens in old age home. The transactions were between the subjects and researcher. After 16 – 20 days the subjects level of depression were assessed by a post test in order to find out the effectiveness of pet therapy.

The goal is said to be to be achieved when there is a reduction in level of depression among senior citizens in old age home.

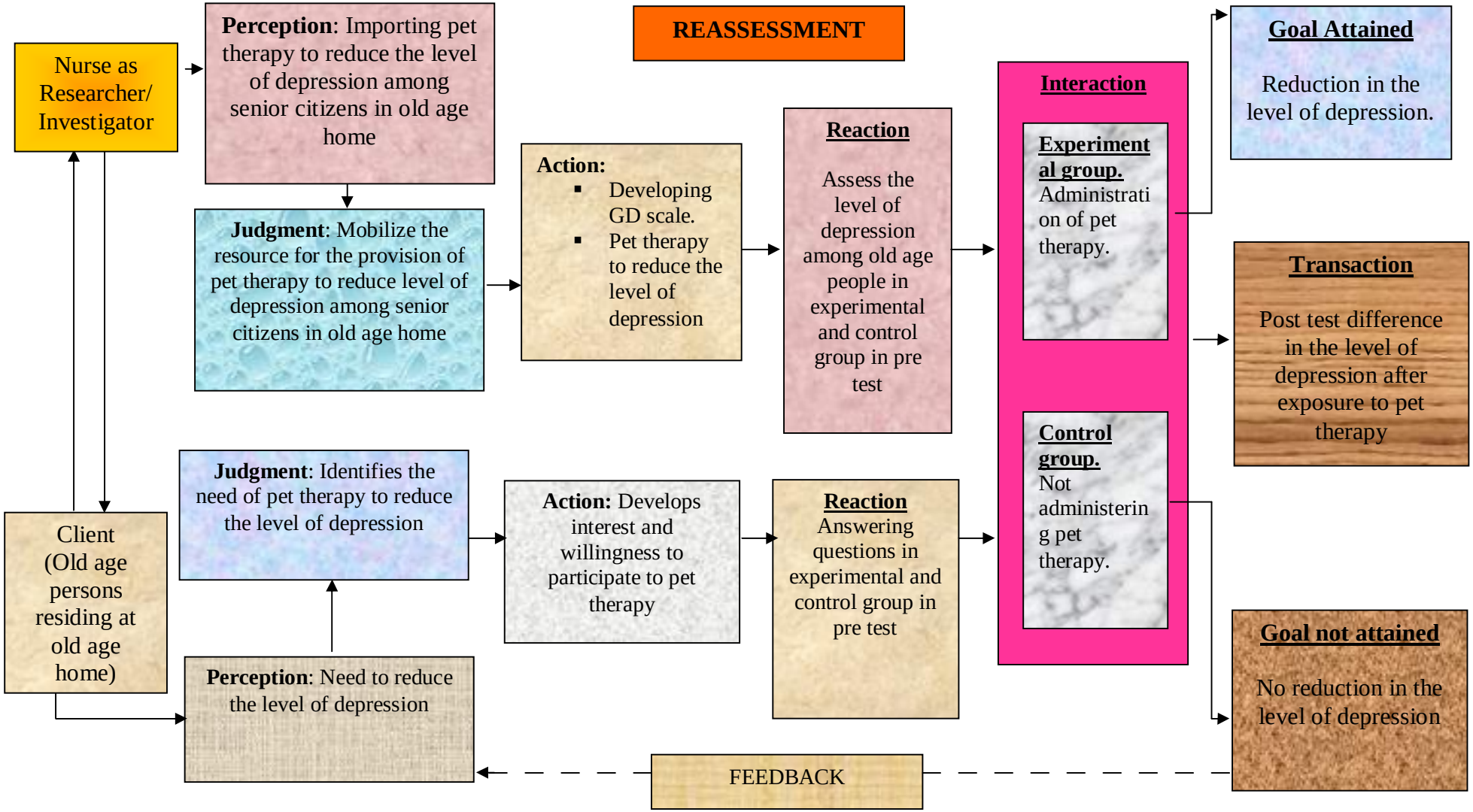

Fig.2.1. Theoretical Frame Work Based on modified King's Goal Attainment Theory

CHAPTER II

REVIEW OF LITERATURE

Review of literature is an important step in the development of any research project. It helps the investigator to analyze what is known about the topic and to describe method of inquiry used in earlier world including their success and short comings. It gives a broad understanding of the problem, keeping those aspects in mind of the investigator. Probed in to available resource of the document, informations and studies related to pet therapy and its relation on depression among old age.

The review of the literature is an extensive systematic scrutinization of potential sources of previous study and work. This process helps in identification and selection of problem, back ground of the study, formation of the tool, choosing the methodology, formulating hypothesis. (Polit and Hungler 1990).

Review of literature of the present study was arranged under the following headings:

1. *Literature related to pet therapy.*
2. *Literature related to depression among old age.*
3. *Literature related to pet therapy on old age.*

1. Literature related to pet therapy.

This review of literature will focus on, a) increase in socialization of patients in a nursing home with the use of pets, b) the degree of improved physical therapy seen in patients with the use of pets as part of their rehabilitation, and c) the improvement of psychological well meaning in Dementia and Alzheimer patients.

Kathie M. Cole, RN, MN, CCRN, Anna Gawlinski, RN, DNSc, Neil Steers, PhD and Jenny Kotlerman, MS. Kathie M. Cole (2008) conducted a descriptive study to determine whether a 12-minute hospital visit with a therapy dog improves hemodynamic measures, lowers neurohormone levels, and decreases state anxiety in patients with advanced heart failure. A 3-group randomized repeated-measures experimental design was used in 76 adults. Longitudinal analysis was used to model differences among the 3 groups at 3 times. Data were collected at baseline, at 8 minutes, and at 16 minutes. Compared with controls, the volunteer-dog group had significantly greater decreases in systolic pulmonary artery pressure during (–4.32 mm Hg, $P = .03$) and after (–5.78 mm Hg, $P = .001$) and in pulmonary capillary wedge pressure during (–2.74 mm Hg, $P = .01$) and after (–4.31 mm Hg, $P = .001$) the intervention. Compared with the volunteer-only group, the volunteer-dog group had significantly greater decreases in epinephrine levels during (–15.86 pg/mL, $P = .04$) and after (–17.54 pg/mL, $P = .04$) and in norepinephrine levels during (–232.36 pg/mL, $P = .02$) and after (–240.14 pg/mL, $P = .02$) the intervention

Beth L. Macauley, PhD, CCC-SLP, HPCS (2007) conducted an exploratory study to assess the effectiveness of animal-assisted therapy (AAT) for persons with aphasia. Three men with aphasia from left-hemisphere strokes participated in this study. The men received one semester of traditional therapy followed by one semester of AAT. While both therapies were effective, in that each participant met his goals, no significant differences existed between test

results following traditional speech-language therapy versus AAT. Results of a client-satisfaction questionnaire, however, indicated that each of the participants was more motivated, enjoyed the therapy sessions more, and felt that the atmosphere of the sessions was lighter and less stressed during AAT compared with traditional
therapy.

Ms Marieanna C (2006) conducted an exploratory study to assess the effect of a companion dog on the depression and anxiety levels of residents in a long-term care facility. A total of 16 residents (eight men and eight women) were randomly assigned to a control group (n = 8) and an Animal Assisted Activity (AAA) group (n = 8) that met once a week for 6 weeks. All residents in the AAA group were either in wheelchairs or walking with crutches. The Beck Depression Inventory and the Beck Anxiety Inventory (BAI) were used pre- and post-intervention. For both the total group and control group no significant differences were found on depression and anxiety pre and post mean scores. However, for the AAA group, significant differences were found between pre and post BDI mean scores while the BAI mean score differences were non-significant. The results of this small study confirm the results of other studies that AAA visits can make a difference to the depression levels of residents in long-term care facilities.

Martin, F. and J. Farnum (2002) conducted a quantitatively study to assess the effects of interaction with dogs on children with pervasive developmental disorders (PDD), disorders characterized by lack of social communications and abilities. While interacting with a therapist, children were exposed to three different conditions: (a) a nonsocial toy (ball), (b) a stuffed dog, and (c) a live dog. Prosocial and nonsocial interactions were evaluated in terms of both behavioral and verbal dimensions. Results show that children exhibited a more playful mood, were more focused, and were more aware of

their social environments when in the presence of a therapy dog. These findings indicate that interaction with dogs may have specific benefits for this population and suggest that animal-assisted therapy (AAT) may be an appropriate form of therapy.

Barker, S. B., and K. S. Dawson, (1998), conducted a study on Animal-assisted therapy involves interaction between patients and a trained animal, along with its human owner or handler, with the aim of facilitating patients' progress toward therapeutic goals. This study examined whether a session of animal-assisted therapy reduced the anxiety levels of hospitalized psychiatric patients and whether any differences in reductions in anxiety were associated with patients' diagnoses. Study subjects were 230 patients referred for therapeutic recreation sessions. A pre- and post treatment crossover study design was used to compare the effects of a single animal-assisted therapy session with those of a single regularly scheduled therapeutic recreation session. Before and after participating in the two types of sessions, subjects completed the state scale of the State-Trait Anxiety Inventory, a self-report measure of anxiety currently felt. A mixed-models repeated-measures analysis was used to test differences in scores from before and after the two types of sessions.

Wilson & Netting, Ryder, Serpell; (1996) conducted a descriptive study to assess the benefits of pets for senior citizens. The participants in the study were represented by 59 senior citizens living in a group residence, to assess the desire to have contact with animals. Patients with good physical mobility and no impairments of their eyesight represented the group that wanted to have the animals. Pet ownership is associated with evidence of psychological health in some senior citizens.

Humphries, (1994) conducted a descriptive research had some interesting findings concerning the estimates of health savings for pet owners. Dog and cat owners visited doctor 4.41 times per year, whereas all others visited 5 times. Therefore, the savings were $790 million on health expenditure annually after the figures were completed. The savings for internal medicine visits were $44.754 million annually, pharmaceuticals were $31.430 million and hospitalization was $ 186.3 million. The grand total that the researchers came up with was $262.484 million.

Kleczynski, (1994) conducted a descriptive study to assess pet assisted therapy in acute general hospital patients provides a home- like atmosphere. They are noted to have an uplifting effect on patients, visitors and staff. Goals of pet assisted therapy programs include the reduction of stress and anxiety associated with hospitalization. The presence of the dogs on the wards of an acute care general hospital does enhance the therapeutic milieu.

Lynch, Thomas, and Weir (1993) conducted an experimental study on physiological response in dementia patients' that had a dog to pet. The study conducted on 100 dementia patients at a nursing home. The dogs were introduced to the patient's hourly for 4 hours every day for 2 months. The heart rate of patients with dementia decreased to 5 beats per minute when they were introduced to a dog and were allowed to pet them.

Verderber, (1991) conducted a prospective study analyzed the effects of the introduction of a resident dog to a nursing home. The majority of the residents felt that the dog was good for others. The data was collected through interviews of 50 patients. The independent variable of patients and the dog were recorded by audiotape. The dependent variable of increase socialization was measured via a five point Likert scale questionnaire. The hypothesis that there was increase socialization with the introduction of the dog was supported.

The findings suggest that the patients were more social and verbal after the session with the dog than before.

Siegel, (1990) conducted a study to assess the beneficial effects of pet ownership on general health of senior citizens were suggested by a prospective year long study of 938 Medicare enrollees in an HMO. These pet owners had fewer visits to the doctor within that year. Improvements in the quality of life in nursing homes have been suggested by a survey of the effectiveness of a pet therapy program of monthly visits to nursing homes in Florida. Commonly reported effects of the visits included shared experiences among residents, more socialization among residents and it gave them something to anticipate. A pet therapy program appeared to improve the quality of life for some residents of nursing homes in Florida (Yates, 1987).

Neer, Dorn, & Grayson, (1990) conducted a prospective study of 66 seniors citizens residing in two facilities; attendance at dog activity sessions was higher than attendance at other activity sessions. In pet therapy the pet functions as a catalyst to facilitate human contacts. The pet provides emotional support, and motivated walks and other activities resulting in interaction with other human beings.

2. Literature related to depression among old age.

Yuki Mukai MD and Rajesh R. Tampi MD, MS (2009) conducted a randomized controlled study comparing the efficacy of various antidepressant classes in this population. This review of recent data on the treatment of depression in the elderly examined the relative efficacy of the selective serotonin reuptake inhibitors (SSRIs) and 2 antidepressant classes having broader neuroreceptor activity. The data from 5 studies using various measures (including changes in Montgomery-Asberg Depression Rating Scale, HAM-D, or Geriatric Depression Scale [GDS] scores; response rates; and remission

rates) suggested no additional efficacy benefit for the SNRI venlafaxine compared with SSRIs or TCAs. In a single trial, duloxetine was significantly more effective than placebo in terms of reductions in HAM-D and GDS scores. The available data, although limited, suggest that the dual-action agents (TCAs and SNRIs) do not appear to confer any additional benefits in efficacy over single-action agents (SSRIs) in the treatment of depression in the elderly.

Deborah Mitchell (2009) conducted a study on depressive symptoms and treatment. Depressive symptoms and disorders were identified by structured psychiatric interview in 130 consecutively admitted male inpatients aged 70 years and over. Major depression was found in 11.5% and other depressive syndromes in 23%. While depressive symptoms and syndromes are common among the medically ill, this study demonstrated the need for careful diagnostic assessment of older patients with depressive symptoms before initiating treatment that may itself convey significant risk. Sociodemographic and health characteristics of older men at higher risk for depression were also identified. Patients more likely to be depressed were over age 75 years, had less formal education, experienced cognitive dysfunction, suffered from more severe medical illness (particularly recent myocardial infarction), and had a history of psychiatric illness.

AT Beekman, JR Copeland and MJ Prince (2008) conducted a study to assess the prevalence of late-life depression in the community. The reported prevalence rates vary enormously (0.4-35%). Arranged according to level of caseness, major depression is relatively rare among the elderly (weighted average prevalence 1.8%), minor depression is more common (weighted average prevalence 9.8%), while all depressive syndromes deemed clinically relevant yield an average prevalence of 13.5%. There is consistent evidence for higher prevalence rates for women and among older people living under adverse socio-economic circumstances.

Jane McCusker . et al., (2007) conducted study on m**ajor depression among** medically ill **elders** contributes **to** sustained poor mental health in their informal caregivers. The longitudinal observational study with 6-month follow-up conducted in two Montreal acute-care hospitals. A sample of 97 cognitively intact medical inpatients aged 65 and over and their informal caregivers, with oversampling of patients with a diagnosis of major or minor depression. The patient characteristics included: mean age 79.3, 62% female, 46% major depression, 18% minor depression, 36% no depression. Caregiver characteristics included: 73% female, 35% co-resident spouse, 15% other co-resident relation, 50% not residing with the patient. Results of the multivariate analyses showed that in comparison with caregivers of patients without a current diagnosis of depression, caregivers of those with major depression had a lower mental health score at follow-up (–9.54, 95% CI –16.66, –2.43), even though their physical health was slightly better (5.42 95% CI 0.04, 10.81).

Ather M Taqui (2007) conducted a study on depression in the elderly. We conducted this study in Karachi, a large urban city of Pakistan, to determine the relationship between the type of family system and depression. We also determined the prevalence of depression in the elderly, as well as ,correlation of depression with other important socio-demographic variables.A cross-sectional study was carried out in the premises of a tertiary care hospital in Karachi, Pakistan. Questionnaire based interviews were conducted among the elderly people visiting the hospital. Depression was assessed using the is-item Geriatric Depression Scale. Four hundred subjects aged 65 and above were interviewed. Seventy eight percent of the subjects were male. The prevalence of depression was found to be 19.8%. Multiple logistic regression analysis revealed that the following were significant ($p < 0.05$) independent predictors of depression: nuclear family system, female sex, being single or divorced/widowed, unemployment and having a low level of education. The elderly living in a nuclear family system were 4.3 times more likely to suffer

from depression than those living in a joint family system (AOR = 4.3 [95% CI = 2.4-7.6]).The present study found that residing in a nuclear family system is a strong independent predictor of depression in the elderly.

Charles F. Reynolds .et. al., (2006) conducted a study on maintenance treatment of major depression in old age. Among patients with a response to treatment with paroxetine and psychotherapy, 116 were randomly assigned to one of four maintenance-treatment programs for two years or until the recurrence of major depression. The result was the major depression recurred within two years in 35 percent of the patients receiving paroxetine and psychotherapy, 37 percent of those receiving paroxetine and clinical-management sessions, 68 percent of those receiving placebo and psychotherapy, and 58 percent of those receiving placebo and clinical-management sessions (P=0.02). After adjustment for the effect of psychotherapy, the relative risk of recurrence among those receiving placebo was 2.4 times (95 percent confidence interval, 1.4 to 4.2) that among those receiving paroxetine. The number of patients needed to be treated with paroxetine to prevent one recurrence was 4 (95 percent confidence interval, 2.3 to 10.9). This study concluded that the patients 70 years of age or older with major depression who had a response to initial treatment with paroxetine and psychotherapy were less likely to have recurrent depression if they received two years of maintenance therapy with paroxetine. Monthly maintenance psychotherapy did not prevent recurrent depression.

Kathleen fisher. et. al., (2004) conducted study on assessment of depression and cognitive impairment among elders in rural housing facilities. Psychiatric disorders are estimated to be 50% higher among elder public housing residents than among the general elderly population. The purpose of the study was to assess for depression and cognitive impairment among rural elders in public housing. Assessments with 20 rural elders were completed

using the PRIMEMD, Center for Epidemiological Studies–Depression Scale (CES-D), the Medical Outcomes Study–12-Item Short Form (SF-12), and Mini-Mental State Exam. Data were analyzed using SYSTAT software. The result was the major depression (25%,n = 5), minor depression (10%,n = 2), and cognitive impairment (25%,n = 5) were identified in this sample. Using the CES-D, depressive symptoms were reported by 50% of seniors in the previous week. Comparative analysis of instruments showed strong correlations for assessing for depression in this elderly sample. The study concluded that, because depression and cognitive impairment can often herald nursing home placements, nurses need to assess this at-risk population. The instruments used are reliable and can easily be used by nurses in clinical practice. Nursing case management including assessment, referrals, identification of community services, and patient and family education are critical to address these under recognized disorders.

John R M Copeland et, al., (2004) collected data from nine centers in Europe which had used the Geriatric Mental Scale (GMS) AGECAT were analyzed to compare prevalence of diagnose in subjects aged 65 years and over living in the community. Levels of depressive illness were Iceland 8.8%, Liverpool 10.0%, Zaragoza 10.7%, Dublin 11.9%, Amsterdam 12.0%, Berlin 16.5, London 17.3%, Verona 18.3 and Munich 23.6%. Taking all levels of depression, five high (Amsterdam, Berlin, Munich, London and Verona) and four low (Dublin, Iceland, Liverpool, Zaragoza) scoring centers were identified. Meta – analysis of all 13,808 subjects yielded a mean level of depression of 12.3% (95% CI 11.8 – 12.9), 14.1% for women (95% CI 13.5 - 14.8) and 8.6% for men (95% CI 7.9 – 9.3). Symptom levels varied between centers: 40% of the total study population in Amsterdam reported depressive mood against only 26% in Zaragoza. To incorporate studies from other centers using other methods for depression identification, the Euro- D scale was applied to 14 population based surveys. Depression score tends to increase with

age unlink levels of prevalence of depression. Large between center differences were evident in levels of depression unexplained by age, gender and marital status

Jongenelis .K. et. al., (2004) conducted study on prevalence and risk indicators of depression in elderly nursing home patients. The prevalence and risk indicators of depression were assessed in 333 nursing home patients living on somatic wards of 14 nursing homes in the north west of the Netherlands. The data were collected cross sectional. The result was the prevalence of major depression was assessed to be 8.1% and the prevalence of minor depression was 14.1%, while further 24% of the patients suffered from sub-clinical depression. This study concluded that the prevalence of depression in the nursing home population is very high. Whichever way defined, the prevalence rates found were three to four times higher than in the community dwelling elderly. Age, pain, visual impairment, stroke, functional limitations, negative life events, loneliness, lack of social support and perceived inadequacy of care were found to be risk for depression. Consequently, optimal physical treatment and special attention and focus on psychosocial factors must be major goals in developing care programs for this frail population.

Sambamoothi U. et. al., (2003) conducted a study on psychotherapy treatment among elderly diagnosed with depression. The research design used is linked Medicare claims and survey data from the 1992 - 1999 Medicare Current. Between 1992 and 1998, we identified 1167 depressed elderly Medicare beneficiaries with 1829 episodes. The findings are, overall psychotherapy was used in 32% (n = 534) of the episodes of depression treatment. Psychotherapy use was correlated with younger age, higher educational attainment, chronically illness and urban residence. Elderly who lived in counties with psychotherapy providers were more likely to receive psychotherapy. Among users of psychotherapy, only a minority (31%, n = 153)

remained in treatment for the period suggested by guidelines. Although supply of providers influenced use of psychotherapy, it did not affect persistence of use. The persistent users were more likely to be younger and living in urban areas. The study concluded that despite substantial empirical evidence on the efficacy of psychotherapy use for treatment of depression among the elderly, only a minority of depressed elderly receive psychotherapy, with treatment rates especially for those over age 75 or with limited education. Results suggest a low level of adherence with published guidelines for persistence treatment.

Ellen L. Brown. et. al., (2003) conducted a study on recognition of depression among elderly recipients of home care services The methods used forty-two nurses were surveyed about the presence of depressive symptoms among patients who had been evaluated independently for depressive disorders by research staff using the Structured Clinical Interview for Axis I DSM-IV Disorders. A sample of newly admitted home health care patients who were aged 65 years or older was randomly selected for this evaluation on a weekly basis from December 1997 to December 1999. The result was 403 patients who were evaluated, 97 (24 percent) were found to have either major depression (64 patients) or minor depression (33 patients). The nurses correctly identified depression among 44 of the 97 patients who were depressed (sensitivity of 45.4) and 230 of the 306 patients who were not depressed (specificity of 75.2). The kappa coefficient measuring overall agreement between the nurses' assessment and the diagnosis of depression was .19. The concluded that home health nurses have difficulty making accurate assessments of depression among older home care patients. Inaccuracy in assessment of depression by home health nurses is a significant barrier to treatment in this elderly homebound population.

Nandini Dendukuri. et . al., (2003) conducted study on to determine risk factors for depression among elderly community subjects. The validity of

studies was assessed according to the four primary criteria for risk factor studies described by the Evidence-Based Medicine Working Group. Information about group size at baseline and follow-up, age, proportion of men, depression criteria, exclusion criteria at baseline, length of follow-up, number of incident cases of depression, and risk factors was abstracted from each report. The result was follow-up of the inception cohort was incomplete in most studies. In the qualitative meta-analysis, risk factors identified by both univariate and multivariate techniques in at least two studies each were disability, new medical illness, poor health status, prior depression, poor self-perceived health, and bereavement. The study concluded that despite the methodologic limitations of the studies and this meta-analysis, bereavement, sleep disturbance, disability, prior depression, and female gender appear to be important risk factors for depression among elderly community subjects.

Biderman . et. al., (2002) conducted study on depression and falls among community dwelling elderly people. This was a cohort study drawn from a primary care clinic, with a one year follow up. Dependent measures included: reporting two or more falls in the past year and a score of 7 or over on the S-GDS (Short Geriatric Depression Scale). The sample included 283 General Sick Fund members, aged 60 and over, who completed both baseline assessments and one year follow up interviews. A set of five risk factors that included: poor self rated health, poor cognitive status, impaired ADL, two or more clinic visits in the past month, and slow walking speed (g10 seconds over five metres) was successful at discriminating between fallers and non-fallers (86% discrimination) and between those with and without depressive symptoms (76%). For every risk factor added, there was a significant increase in the proportion of respondents who had depressive symptoms. A similar result was found for falls. These results show that there is a common set of risk factors that increase the risk of two common outcomes in geriatric medicine, falls and

depression. For a general practitioner or a geriatric physician, it might be easier to detect these risk factors than to diagnose depression or high risk for falls. When these risk factors are detected in patients the physician can then be more active in direct probing about depression and falls.

Finkelstein. et. al., (2002) conducted a study on costs of major depression among elderly claimants with diabetes. This retrospective analysis relies on claims data from the 1997 Medicare 5% Standard Analytic Files. Using these data, we statistically determined whether the odds of major depression are greater among elderly claimants with diabetes after controlling for age, race/ethnicity, and sex. The result was the odds of major depression are significantly greater among elderly Medicare claimants with diabetes than among those without diabetes (OR 1.58 ± 0.05). We also found that elderly claimants with both diabetes and major depression seek treatment for more services and spend more time in inpatient facilities, and as a result incur higher medical costs than claimants with diabetes but without major depression. This analysis suggests that treatment for major depression among claimants with diabetes may reduce total medical costs if treatment results in a decrease in utilization for general medical services in the future.

Sarra .S. el al., (2001) conducted study on different types of smiles and laughter in preschool children. The relationship among morphologically different forms of smiling and laughter was examined. The participants were 19 Brazilian preschool children. Each child was observed a total of 60 min. in three 10-min. sessions on the playground and three 10-min. sessions in the classroom. Analysis suggests that the various forms of smiling do not simply express different intensities of a single emotion. A two-dimensional structure was indicated by factorial analysis. The first dimension, which could be called playfulness-mock aggression, consisted of a broad smile and laughter. The second dimension, which could be called friendliness-appeasement, consisted of a closed and upper smile. The pattern of correlation found

between expressive behaviors and both teacher's and peers' evaluations gives further support to the interpretation that smiling is an heterogeneous category.

3. Literature related to pet therapy on old age.

G. Colombo, M. Buono, K. Smania, R. Raviola, D. De Leo (2008) conducted a study to assess whether a pet therapy program had a favorable effect on psychopathological status and perception of quality of life in cognitively unimpaired institutionalized elderly. Seven elderly rest homes in Veneto Region of Northern Italy participated in the project, which was conducted on 144 cognitively intact elderly residents (97 females and 47 males). The participants were randomly divided into three groups: 48 subjects were given a canary, 43 subjects were given a plant, and 53 subjects were given nothing. The observation period (t0–t1) lasted for 3 months. At time t0 and t1 participants were administered the mini mental state examination (MMSE) to assess their cognitive status, the LEIPAD II-Short Version (LEIPAD-SV), to gauge subjective perception of quality of life in the elderly, and the brief symptom inventory (BSI), for self-evaluation of the presence of psychopathological symptoms. At the end of the 3-month trial, tests were re-administered, without removing the experimental condition. Even if the group that received a plant seemed to benefit from the experience, they did not achieve the same positive results on BSI and quality of life subscales exhibited by the group that received a pet.

Beth L. Macauley, PhD, Tuscaloosa, AL (2008) this study explored the effects and effectiveness of animal-assisted therapy (AAT) for persons with aphasia. Three men with aphasia from left-hemisphere strokes participated in this study. The men received one semester of traditional therapy followed by one semester of AAT. While both therapies were effective, in that each participant met his goals, no significant differences existed between test results

following traditional speech-language therapy versus AAT. Results of a client-satisfaction questionnaire, however, indicated that each of the participants was more motivated, enjoyed the therapy sessions more, and felt that the atmosphere of the sessions was lighter and less stressed during AAT compared with traditional therapy.

Zisselman MH, Rovner BW,Shmuely Y, Ferrie P. (2007) The purpose of this study was to evaluate the effects of pet therapy on geriatric psychiatry inpatients. A demonstrable impact could lead to more widespread or targeted use of animal companionship programs for hospitalized older persons. The study design was a randomized, parallel-group control treatment trial with pretreatment and post treatment measures. Fifty-eight subjects with chronic age-related disabilities who were patients of the Wills Eye Hospital Geriatric Psychiatry Unit were assigned to a pet therapy intervention group or an exercise control group for 1 hr a day for 5 consecutive days. Every subject was blindly evaluated with the Multidimensional Observation Scale for Elderly Subjects (MOSES) before and after the intervention week. No significant differences in MOSES scores were found between or within groups before and after the interventions. There was a non significant tendency for subjects who received the pet intervention to have less irritable behavior after treatment. However, women with dementia who received either pet therapy or exercise intervention had improved irritable behavior scores after treatment. This pilot study demonstrates the need for further research on animal-assisted interventions with hospitalized elderly persons. Differential improvement in women with dementia also requires further investigation.

Joanne Roth University of La Verne December (2006) this paper is about the geriatric population of patients that had Pet Therapy and those that did not. The purpose of this paper to reject the null hypothesis and to prove the alternative hypothesis as correct, by showing how Pet assisted therapy is used with geriatric participants with the rehabilitation process : in the length of

stay , physical and psychological attitudes.. This study is based on one hundred transitional care unit patients that were observed over a three month period. The patients are a geriatric age group over 65 plus. The diagnosis looked at are orthopedic, hypertension, aids, dementia and other medical conditions. The scope and delimitations of the study will be represented by a geriatric age group characterized by four disease states. The gender and the ethnicity of the participants were not restricted.

Marian R. Banksand William A. Banks (2005) Animal-assisted therapy (AAT) is claimed to have a variety of benefits, but almost all published results are anecdotal. We characterized the resident population in long-term care facilities desiring AAT and determined. Whether AAT can objectively improve loneliness. Of 62 residents, 45 met inclusion criteria for the study. These 45 residents were administered the Demographic and Pet History Questionnaire (DPHQ) and Version 3 of the UCLA Loneliness Scale (UCLA-LS). They were then randomized into three groups (no AAT; AAT once/week; AAT three times/week- 15/group) and retested with the UCLA-LS near the end of the 6-week study.

CHAPTER III

RESEARCH METHODOLOGY.

"Research methodology is a way to systematically solve the research problem. It consists of various steps that are generally adopted by a researcher in studying the problem along with the logic behind them".
(Kothari, 1990).

"Research methodology involves the systematic procedures by which the researcher starts from initial identification of the problem to its final conclusion. The role of methodology consists of procedures and techniques for conducting the study". (Sharma 1990).

This chapter includes the research approach, research design, the setting, sample and sampling technique, development of the tool, procedure for data collection and plan for data analysis.

RESEARCH APPROACH.

The Evaluative research approach was used in this study, to determine the effectiveness of pet therapy in reduction of depression among the old age people.

RESEARCH DESIGN.

The term research design refers to the structural framework for study implementation. The design phase includes selection of the research design, data collection methods, sampling framework, the data entry / analysis plan. It is the blue print for study implementation that maximizes control over factors interfering with the true relationship among study variables. Both the

theoretical and design frameworks are critical to the study. (Taibot 1995)

The study is designed to assess the depression of old age people who are residing in old age homes. Quasi experimental non-equivalent pretest post-test control group design is used in this study.

Schematic representation of a Quasi experimental with pre test post test control group design is as follows:

Group	Pre-test		Post test
Experimental group	O1	X	O2
Control group	O1	__	O2

Key:

O1- Pre-assessment of level of depression.

X – Administration of pet therapy.

O2- Post assessment of level of depression.

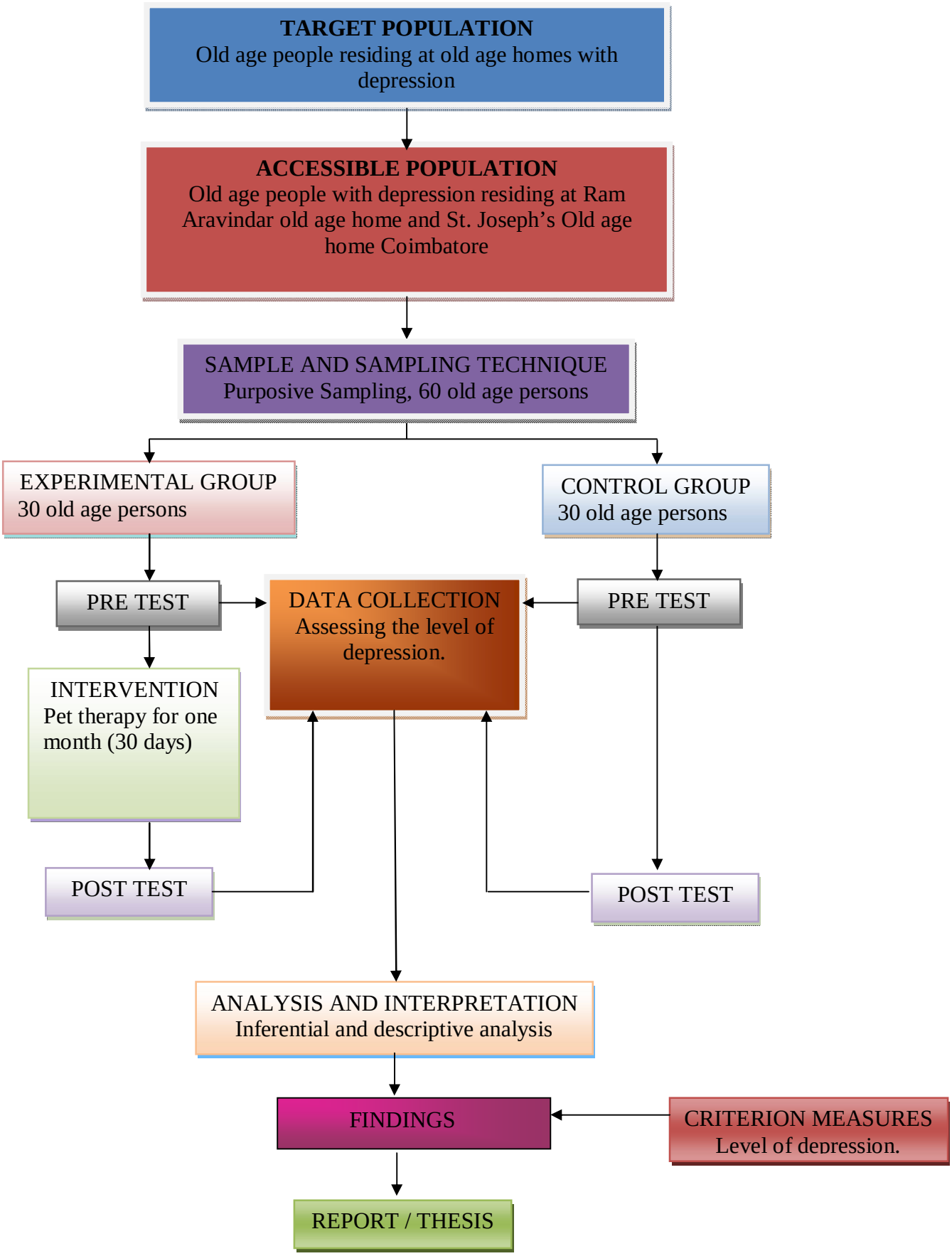

Fig – 2 : SCHEMATIC PRESENTATION OF RESEARCH DESIGN

VARIABLES

1. Dependent variable : Level of Depression.
2. Independent variable : Pet therapy.
3. Attribute variable : Age, Sex, Education, Occupation, Religion, Marital status, Type of family, Duration of visit by the family members, Hobbies and Reason for staying in the old age home.

SETTING OF THE STUDY.

Research setting is the specific place where data collection is to be made; the selection of setting of setting was done on the basis of feasibility of conducting the study, availability of subjects and permission from the authorities. The study was conducted in Ram Aravindar Old Age Home and St. Joseph's Old age home at Coimbatore.

The Ram Aravindar Old Age Home is situated at a distance of 5km away from Cherraan's College of Nursing. In Ram Aravindar Old Age Home totally 90 old age people are residing. The St. Joseph's Old age home is situated at a distance of 7km away from Cherraan's College of Nursing. In St. Joseph's Old age home totally 150 old age people are residing.

POPULATION.

A population is the entire aggregation of cases in which the researcher is interested. (Polit and Hungler). Population may be of two types, target population and accessible population.

TARGET POPULATION.

The target population selected for this study were old age people those who are in the age of 60 and above.

ACCESSIBLE POPULATION.

It refers to the aggregate of cases which conform to the designed criteria and which is accessible to the researcher as the pool of subjects or objects. In this research the accessible population was old age persons who are in the age of 60 and above and residing at Ram Aravindar Old Age Home and St. Joseph's Old age home at Coimbatore.

SAMPLE.

Sampling is the process of selection of portion of the population. (Polit and Hungler). Sample consists of the subject of the population selected to participate in the research study. The sample in this study was old age people who are in the age of 60 and above and are having depression in Geriatric Depression Scale.

Sample size.

The sample size of the present study was 60 old age people among that 30 were in experimental group and 30 were in control group. The sample size was determined based on the type of study, variable being studied, the statistical significance required and availability of sample and feasibility of conducting the study.

Sampling technique.

Sampling refers to the process of selecting a portion of the population to represent the entire population. A sample that consists of a subject of the units that compose the population. The purpose of using sampling technique is to increase representatives and to decreases bias and sampling error. In this study purposive sampling technique was used to select subjects as they fulfilled the inclusion criteria.

CRITERIA FOR SAMPLE SELECTION.

In sampling criteria, the researcher specifies the characteristics of the population under the study by detailing the inclusion and exclusion criteria. Inclusion criteria are characteristics that each sample elements must possess to be included in the sample. Exclusion criteria are characteristics that could confound or contaminate the results of the study; therefore such participants are excluded from the study.

Inclusion criteria:

- Old age people those who are in the age of 60 and above.
- Old age people those who are residing at Ram Aravindar Old Age Home and St. Joseph's Old age home at Coimbatore.
- Those who are available at the time of study.
- Old age persons those who are having depression.
- Both male and female old age persons.
- Those who understands Tamil and English.

Exclusion criteria:

- Those who are not willing to participate.
- Those who doesn't like pets.
- Those who are having allergy with pets.
- Those who are suffering from any chronic physical and mental illness.

DEVELOPMENT OF TOOL.

An instrument in research refers to the tool or equipment used for the collection of data. The researcher used Geriatric Depression Scale in this study for assessing level of depression among old age persons.

DESCRIPTION OF THE TOOL.

The data was collected by using Geriatric Depression Scale to assess the level of depression among old age persons.

Tool consists of two parts:

Part I: Demographic variable.

Part II: Geriatric Depression Scale.

Part I: Demographic variable.

The questionnaire consists of 10 items seeking demographic variables such as Age, Sex, Religion, Educational status, Occupation, Marital status, Type of family, Duration of visit by family members, Hobbies and Reason for staying in old age home. It is a self administered questionnaire. Instructions were given to the old age persons for using the questionnaire.

Part II: Geriatric Depression Scale.

It consists of 30 items to assess the level of depression. Instructions were given to the old age persons for using the Geriatric Depression Scale.

The grading was done as follows:

Category.	**Score.**
Mild Depression.	1 – 9.
Moderate Depression.	10 – 19.
Severe depression.	20 – 30.

TESTING OF THE TOOL.

Validity of the tool.

Validity of the tool should be based on prior research in the field and on the opinion of experts. The tool was given to five experts, one psychiatrist, one psychologist and three nursing experts having more than five years experience to evaluate the tool. After their valid suggestions tool was modified and translated to Tamil.

Reliability of the tool.

C.R.Kothari (2004) defined reliability as the degree of consistency or accuracy with which an instrument measures the attribute it is designed to measure. The Reliability of the Geriatric Depression Scale for the study was established by split half method, among six old age persons representing the characteristics of the population. The post test was conducted after the pre test to the same group of old age persons using Karl Pearson's correlation co-efficient and it was found to be, 'r' = 0.92 among experimental group and 'r'= 0.91 among control group. The tool was found to be highly reliable for the study.

PILOT STUDY

The tool was administered and checked for the feasibility and appropriateness. Formal approval was obtained from head of the psychiatry department from Cherraan's college of nursing and the director of old age home. The pilot study was conducted in Mother Care Centre old age home at Velandipalayam, two weeks before the actual study. Purposive sampling technique was used to select the experiment and control group. The tool prepared by the investigator was administered to 6 old age persons, 3 in experimental and 3 in control group in the pre test. Pet therapy was given for 2 weeks for experimental and control group.2 weeks after post test was

conducted. There was a good response .The instrument was found to be feasible and practicable.

DATA COLLECTION PROCEDURE.

The present study was conducted in Ram Aravindar Old Age Home and St. Joseph's Old age home. The data was collected for four weeks. Prior permission from the authorities was obtained. Individual's informed consent obtained from the study sample orally. The study samples were selected by purposive sampling technique based on the sampling selection criteria.

Phase: I.

During the first phase, the pre test was carried out to the control group by using geriatric depression scale. Control group received only the routine old age care. After that, the pre test was given to the experimental group by using geriatric depression scale. Experimental group received pet therapy and routine old age home care. Each participant was advised to practice pet therapy daily. The investigator checked the performance in alternative days.

Phase: II.

During the second phase, post test was conducted after 4 weeks for both experimental and control group. The tools were checked for their completeness. The working period for data collection was from 1-9-09 to 31-9-09 during 10am to 12am. The respondents were co-operative and the researcher appreciated them for their cooperation.

PLAN FOR DATA ANALYSIS.

The investigator edited the tool, coded the data and entered the data into excel sheet. Statistical analysis was done on the basis of objectives and hypothesis by using descriptive and inferential statistics.

Descriptive statistics.

- Frequency and percentage distribution was used to analyze demographic variable.
- Mean and standard deviation was used to analyze the level of depression.

Inferential statistics.

- Karl pearson's correlation co-efficient formula used to analyze correlation between pre test and post test scores of experimental group and control group.
- Paired 't' test was used to find out the difference between pre test and post test scores of experimental group.
- Chi-square was used to find out the association between post test score of control group and their selected demographic variables.

ETHICAL DESCRIPTION.

The study objectives, intervention and data collection procedures were approved by the research and ethical committee of the institution. Informed consent was obtained from the individual old agers in written form. The old agers have the freedom to leave the study at their will with out assigning any reason. Explanation regarding the purpose of giving pet therapy was explained to the old agers involved in the study. Thus the ethical issues were ensured in the study.

SUMMARY.

This chapter dealt with research approach, research design, setting, population, sample, and sampling technique, development of data collection tool, pilot study, data collection procedure, plan for data analysis such as descriptive and inferential statistics.

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

Statistical analysis is a method of rendering quantitative information and elicits meaningful and intelligible form of research data. Analysis and interpretation of data of this study was done using descriptive and inferential statistics.

This chapter deals with analysis and interpretation of data collected from old age persons residing at Ram Aravindar and St.Josephs old age homes at Coimbatore.

The data collected were edited, tabulated, analyzed, interpreted and the findings were presented in the form of tables and diagrams under the following sections.

SECTION I:

Deals with the distribution of demographic variables of experimental group and control group among old age persons.

SECTION II :

Deals with the pre test and post test level of depression score of experimental and control group in old age persons.

SECTION III:

Deals with the effectiveness of pet therapy on depression by comparing the level of depression among old age persons in experimental and control group.

SECTION IV:

Deals with the correlation between pre test and post test scores of experimental and control group.

SECTION V:

Deals with the association between post test level of depression score and demographic variables among experimental group.

SECTION VI:

Deals with the association between post test level of depression score and demographic variables among control group.

SECTION I

Distribution of Demographic Variables of Old Age Persons in Experimental and Control Group.

Table- 1

Frequency distribution of demographic variables of the Old age persons.

N = 60

S.No.	Demographic variables	Experimental group		Control group	
		F	%	F	%
1	Age				
	60 to 69	21	70	21	70
	70 to 79	8	26.67	9	30
	80 to 89	1	3.33	0	0
	90 & above	0	0	0	0
2	Sex				
	Male	18	60	14	46.67
	Female	12	40	16	53.33
3	Religion				
	Hindu	10	33.33	14	46.67
	Muslim	4	13.33	0	0
	Christian	16	53.34	16	53.33
	Others	0	0	0	0
4	Education				
	Non formal	7	23.33	10	33.33
	Primary	8	26.67	7	23.33
	Secondary	7	23.33	7	23.33
	Higher secondary	8	26.67	5	16.67
	Graduate	0	0	1	3.34
5	Previous occupation				
	Retired	17	56.67	14	46.67
	Business man	10	33.33	6	20.00
	Coolie	3	10.00	10	33.33
	Any other	0	0	0	0
6	Marital status				
	Unmarried	2	6.67	2	6.67
	Married	22	73.33	21	70.00
	Separated \ Divorced	4	13.33	2	6.67
	Widow \ Widower	2	6.67	5	16.67
7	Type of family				
	Nuclear	25	83.33	27	90.00
	Joint	5	16.67	3	10.00
8	Duration of visit by the family members				
	Weekly once	0	0	2	6.67
	Monthly once	3	10.00	1	3.34
	Yearly once	10	33.33	4	13.33
	Never	17	56.67	23	76.66

S.No.	Demographic Variables	Experimental Group		Control Group	
		F	%	F	%
9	Hobbies				
	Present	4	13.33	3	10.00
	Absent	26	86.67	27	90.00
10	Reason for staying in old age home				
	Family members not accepted	16	53.33	23	76.67
	No children	12	40.00	7	23.33
	Orphans	2	6.67	0	0
	Any other	0	0	0	0

Table 1 shows that

Among the experimental group, regarding age, majority 21(70%) belonged to the age group of 60 – 69 years 8 (26.67%) belonged to the age group of 70 to 79 years and 1 (3.33%) belong to the age group of 80 to 89 years.

Among the control group, regarding age, majority 21 (70%) belonged to the age group of 60 – 69 years and 9 (30%) belonged to the age group of 70 to 79 years.

Among the experimental group, regarding sex, majority 18 (60%) were males and remaining were females 12 (40%).

Among the control group, regarding sex, majority 16 (53.33%) were females and remaining were males 14 (46.67%).

Among the experimental group, regarding religion, majority were Christians 16 (53.33%), 10 (33.33%) were Hindus and the remaining 4 (13.33%) were Muslims.

Among the control group, regarding religion, majority were Christians 16 (53.33%) and the remaining 14(46.67%) were Hindus.

Among the experimental group, regarding education majority were having the education of primary 8 (26.67%) and higher secondary 8 (26.67%) and the remaining 7 (23.33%) were having the education of non formal and 7 (23.33%) were having secondary education.

Among the control group, regarding education, majority were having the education of non formal 10 (33.33%) and 7 (23.33%) belonged to primary and secondary, 5 (16.67%) belonged to higher secondary and the least 1 (3.33%) belonged to graduate.

Among the experimental group, regarding previous occupation, majority 17 (56.67%) were retired, 10 (33.33%) were business men and the remaining 3 (10%) coolie workers.

Among the control group, regarding previous occupation, majority were 14 (46.67%) retired, 10 (33.33%) belonged to coolie and the remaining 6 (20%) belonged to business.

Among the experimental group, regarding marital status, majority were married 22 (73.33%), 4 (13.33%) were separated or divorced and 2 (6.67%) were unmarried and the rest 2 (6.67%) were widow or widower.

Among the control group, regarding marital status, majority were married 21 (70%), 5 (16.67%) were widow or widower, 2 (6.67%) were unmarried and the remaining 2 (6.67%) were separated or divorced.

Among the experimental group, regarding type of family, majority belonged to nuclear family 25 (83.33%) and the remaining 5 (16.67%) belonged to joint family.

Among the control group, regarding type of family, majority belonged to nuclear family 27 (90%) and the remaining 3 (10%) belonged to joint family.

Among the experimental group, regarding the duration of visit by the family members, majority 17 (56.67%) doesn't have the visit by the family members, 10 (33.33%) visit by the family members yearly once and the remaining 3 (10%) were having the visit by the family members monthly once.

Among the control group, regarding the duration of visit by the family members, majority 23 (76.66%) doesn't have the visit by the family members, 4 (13.33%) were having yearly once visit by the family members, 2 (6.67%) were having weekly once visit by the family members and remaining 1 (3.34%) was having monthly once visit by the family members.

Among the experimental group, regarding hobbies, majority 26 (86.67%) were not having any hobbies and the rest 4 (13.33%) were having hobbies.

Among the control group, regarding hobbies, majority 27 (90%) were not having any hobbies and the remaining 3 (10%) were having hobbies.

Among experimental group, regarding reason for staying in old age home, majority 16 (53.33%) the reason was family members not accepted, 12 (40%) the reason was not having any children and the remaining 2 (6.67%) the reason was orphans.

Among the control group, regarding reason for staying in old age home, majority 23 (76.67%) the reason was family members not accepted and the remaining 7 (23.33%) the reason was not having any children.

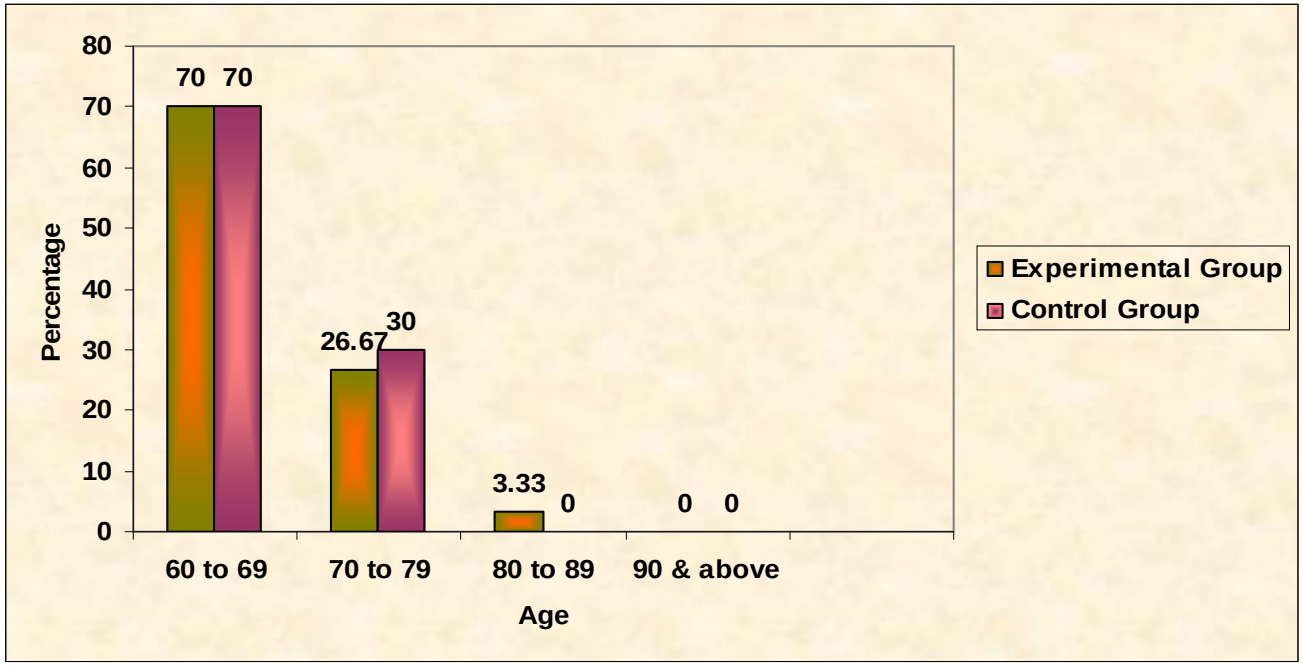

Fig – 3 : Percentage Distribution of Age of old age persons.

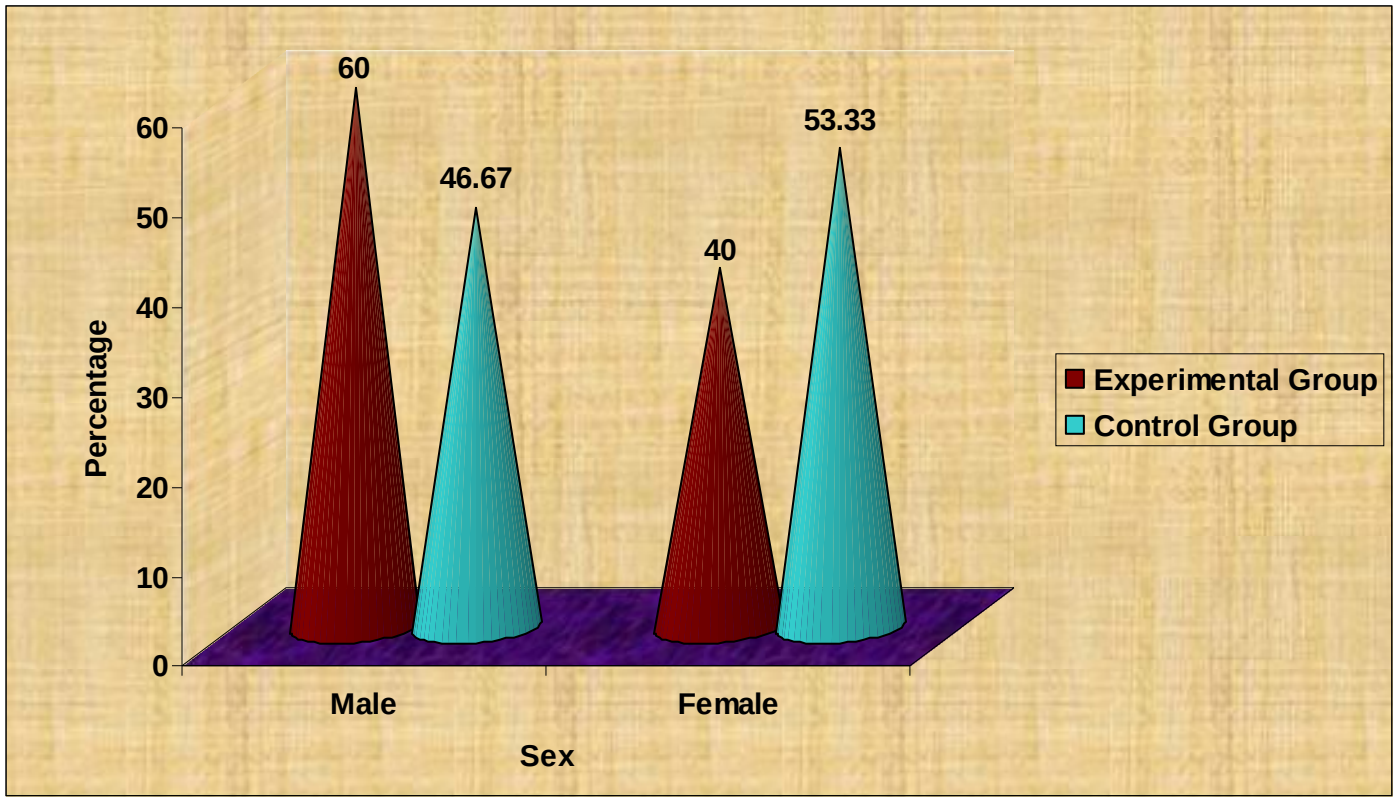

Fig – 4: Percentage Distribution of Sex of Old age persons

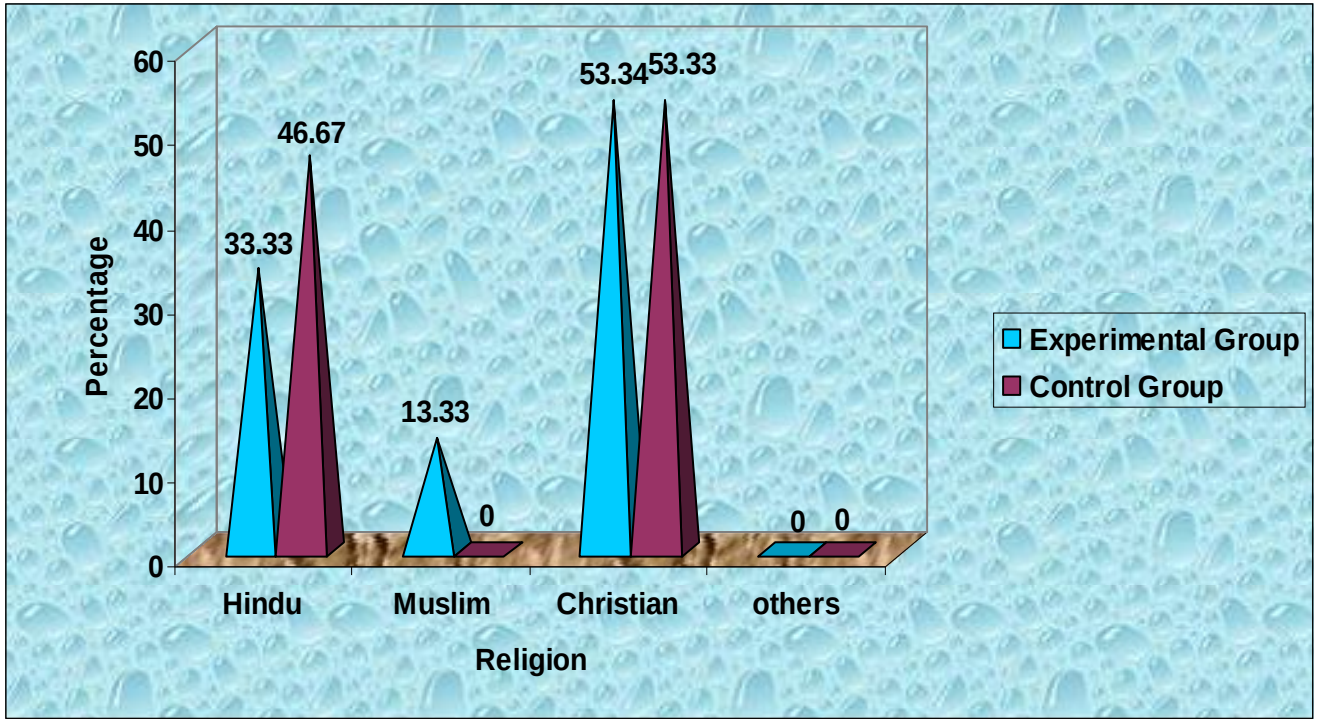

Fig – 5: Percentage Distribution of Religion of Old age persons

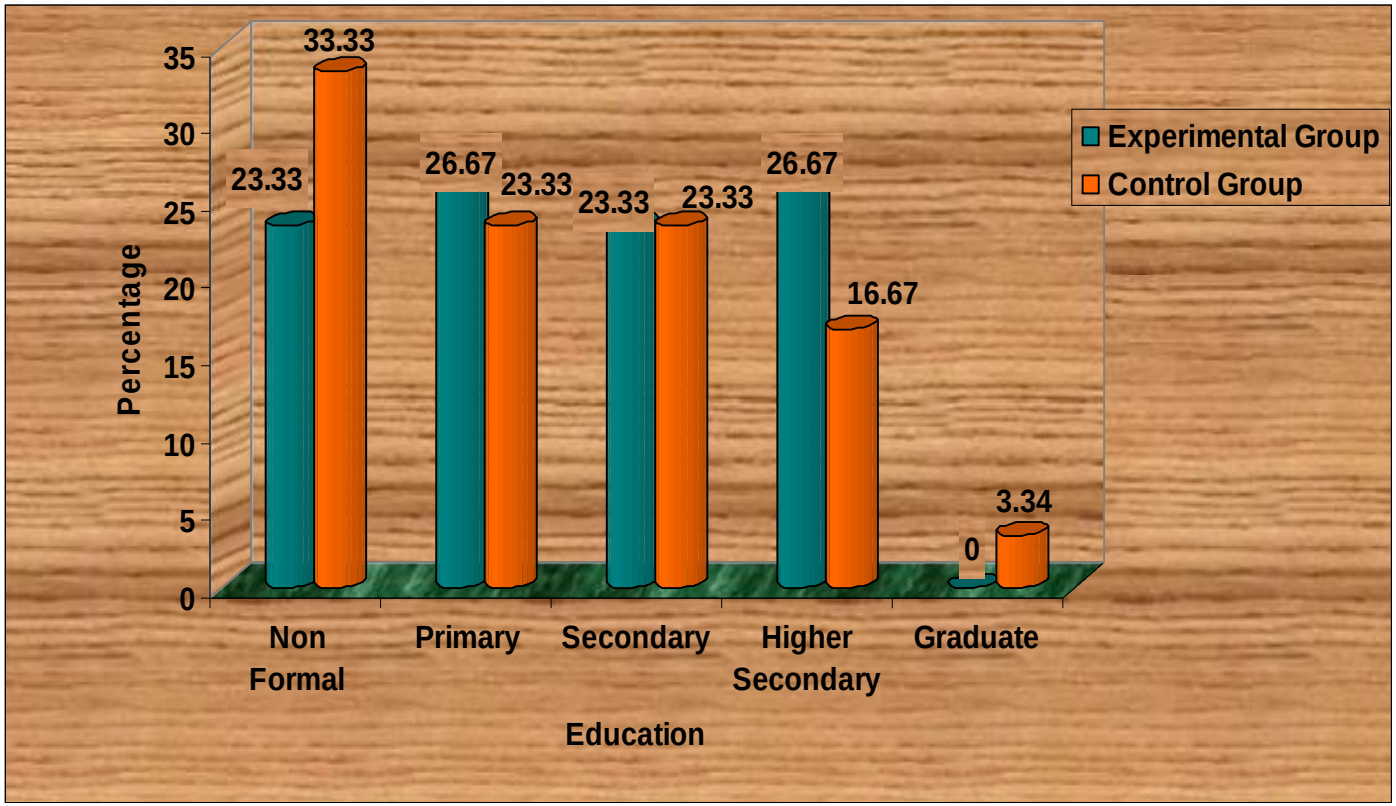

Fig – 6: Percentage Distribution of Education of Old age persons

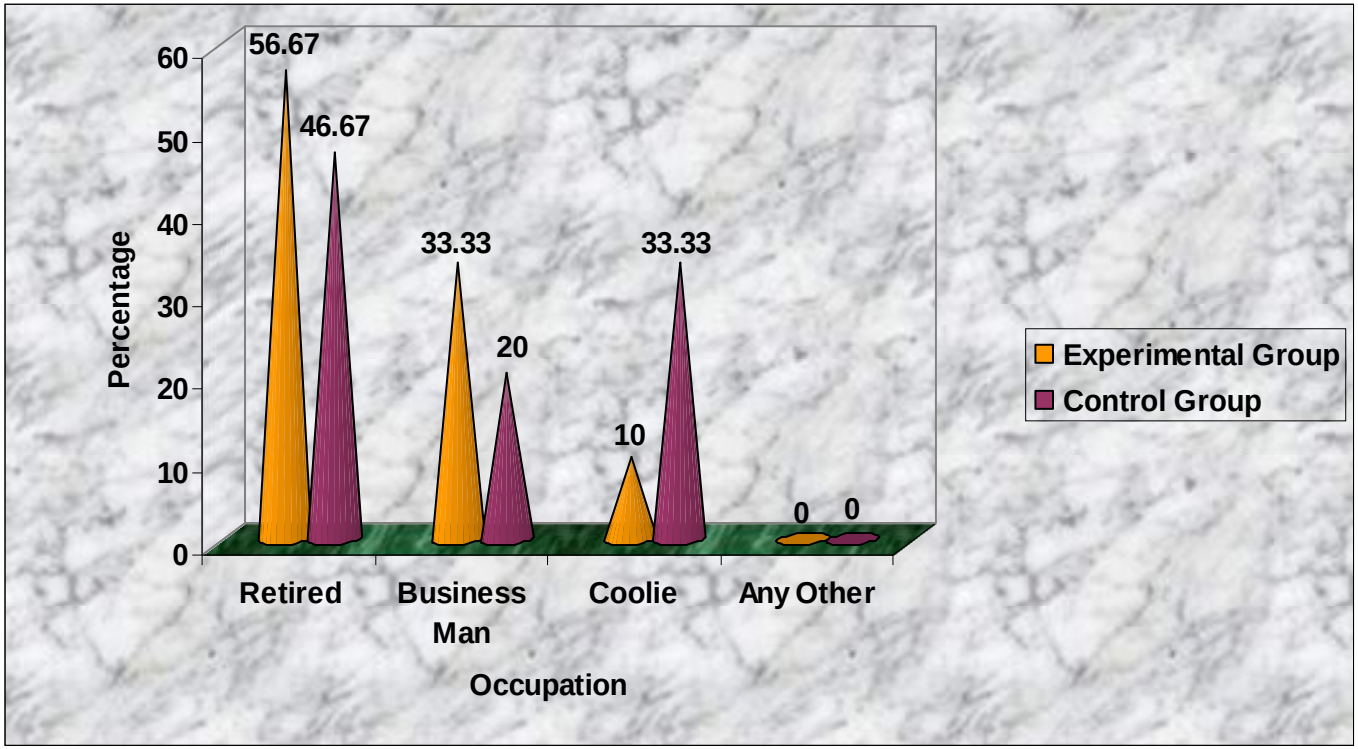

Fig- 7: Percentage Distribution of Occupation of Old age persons

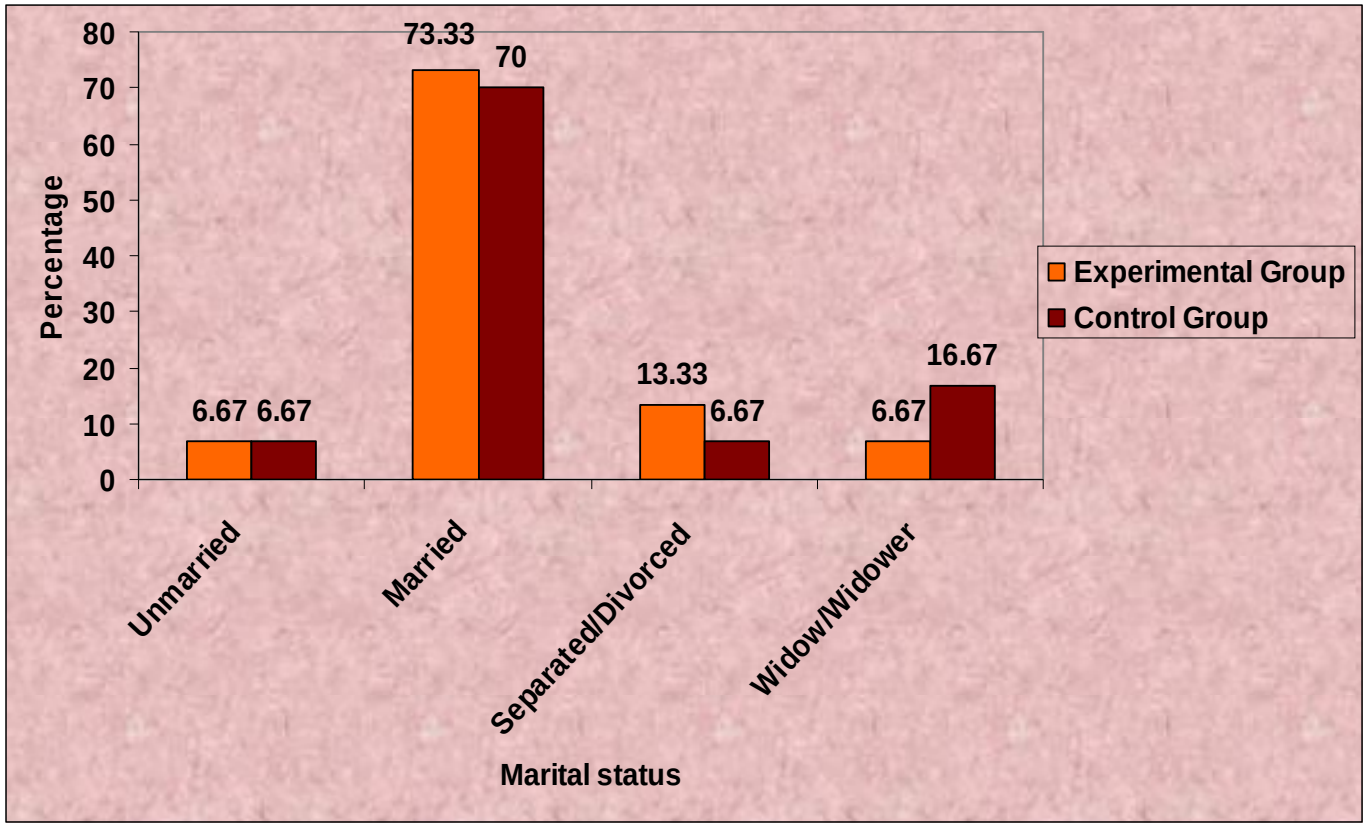

Fig – 8: Percentage Distribution of Marital Status of Old age persons

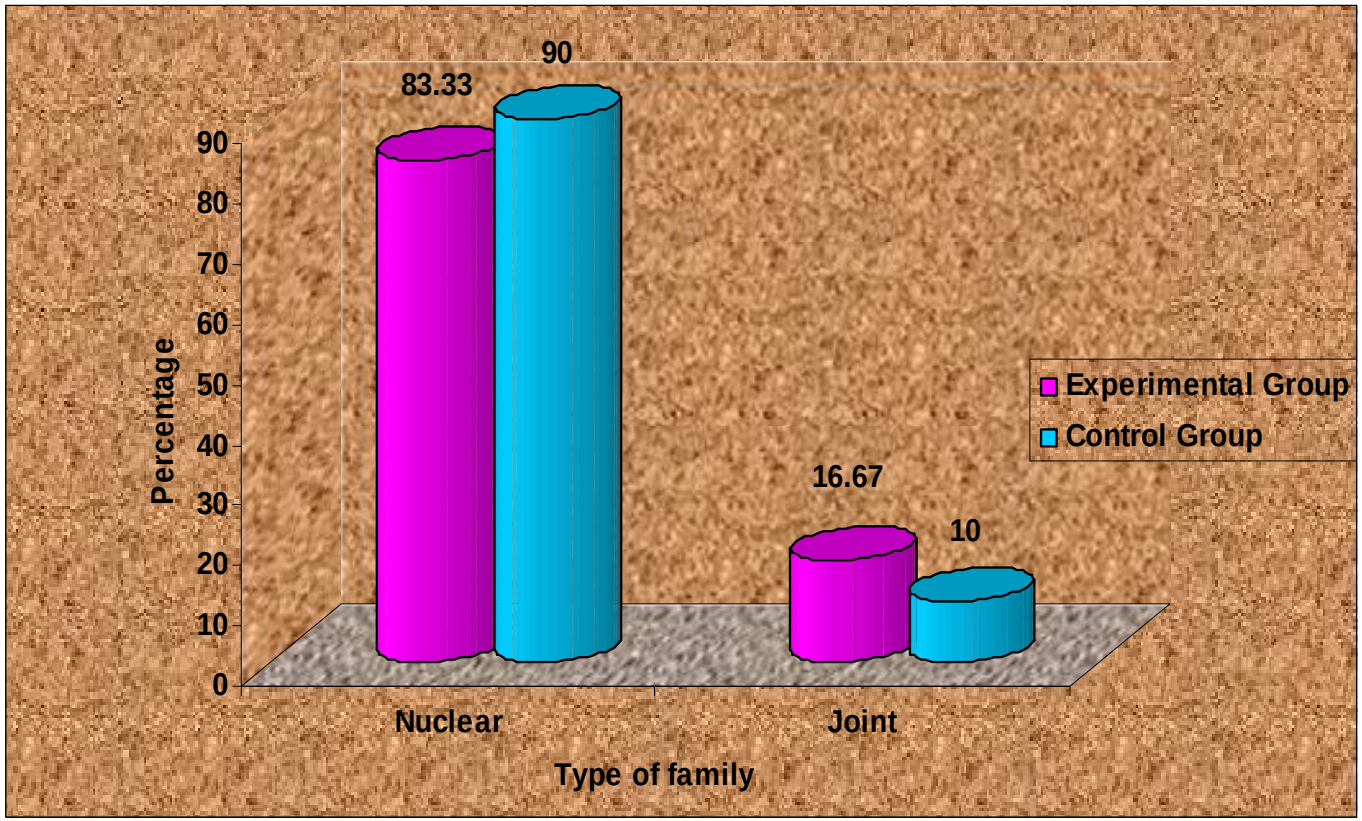

Fig – 9: Percentage Distribution of Type of Family of Old age persons

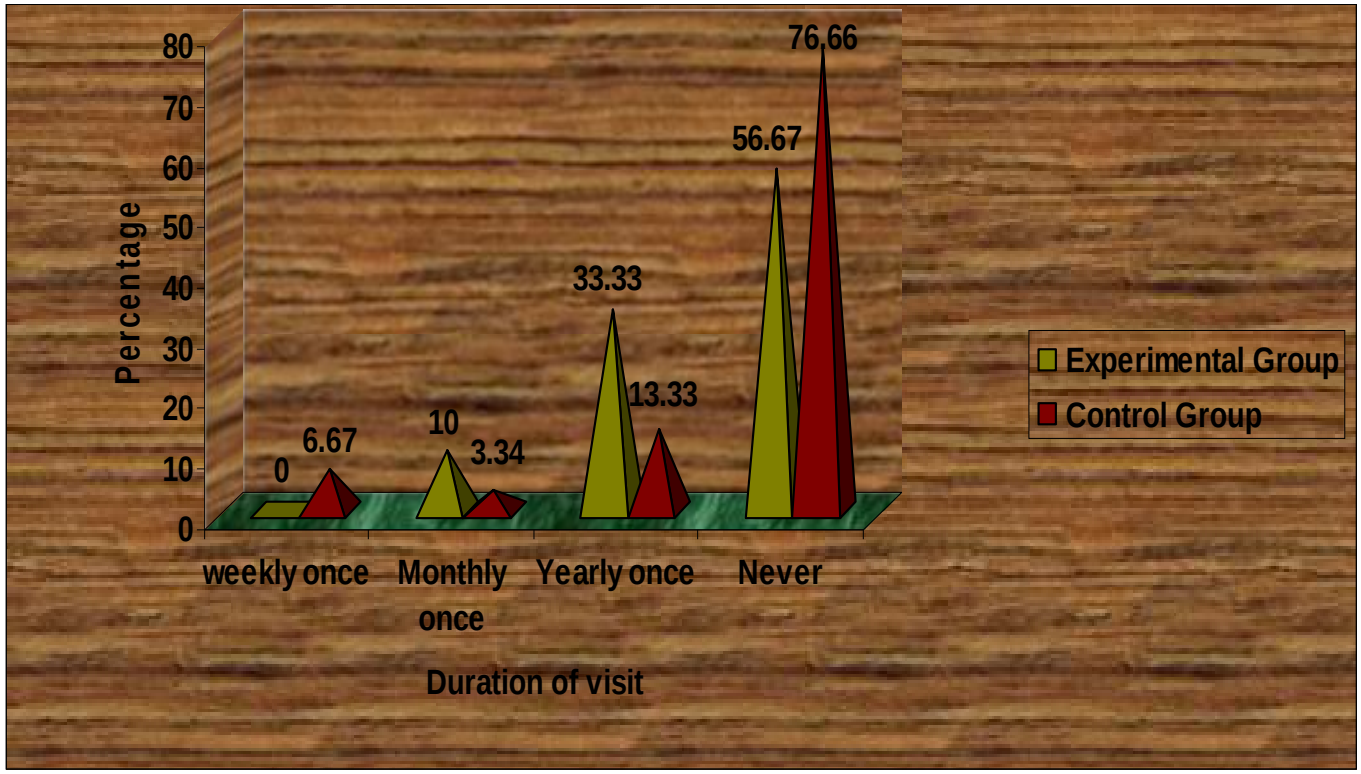

Fig – 10: Percentage Distribution of Duration of Visit by the family members of Old age persons

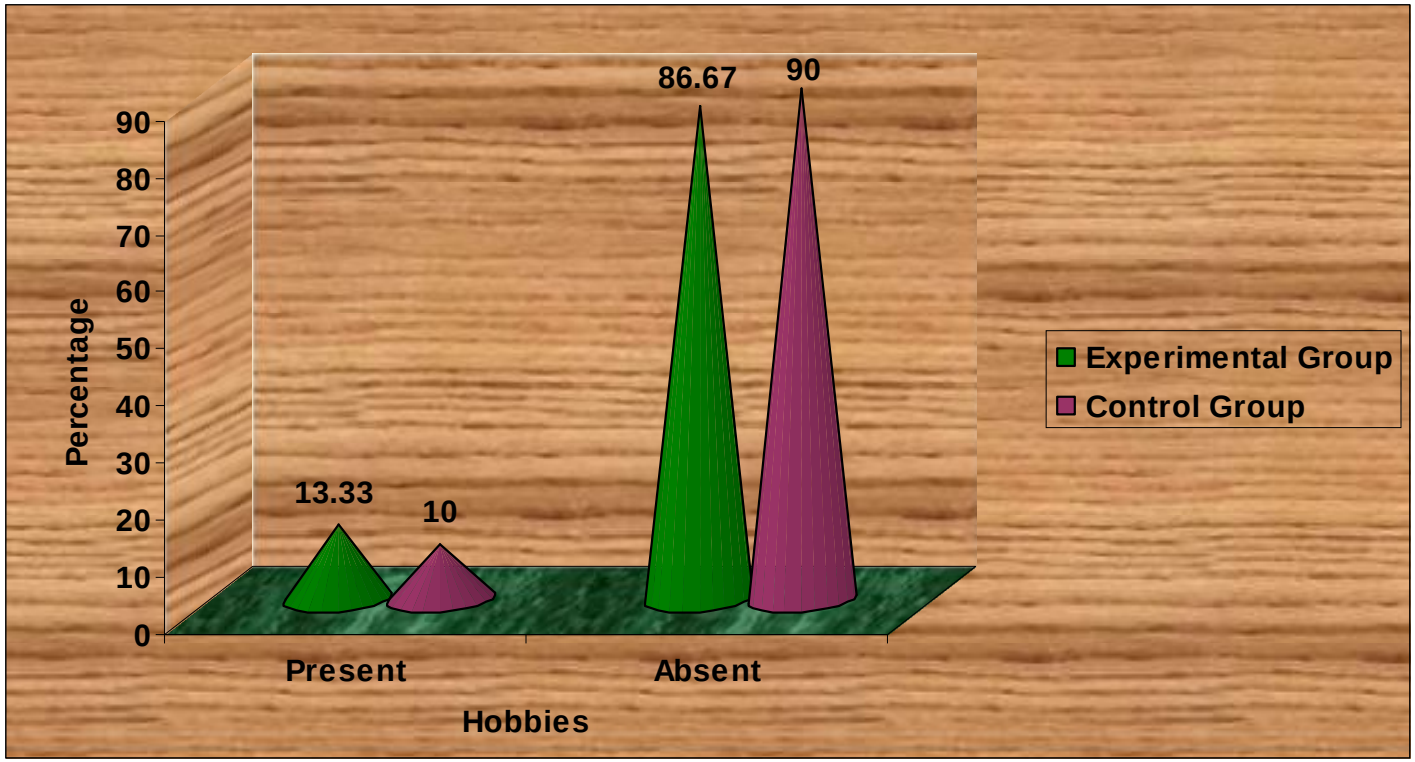

Fig – 11: Percentage Distribution of Hobbies of Old age persons

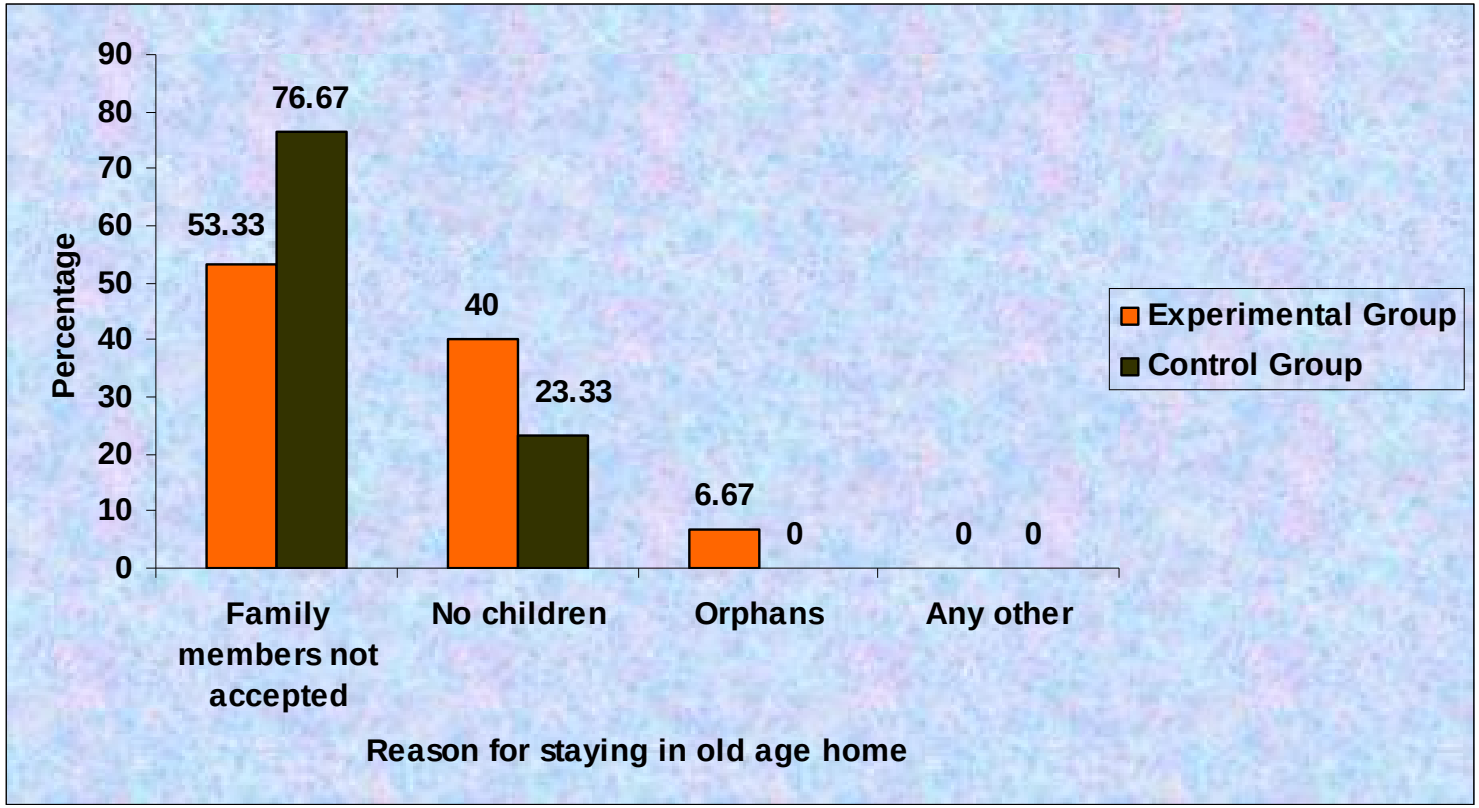

Fig – 12: Percentage Distribution of Reason for Staying in the Old age home of Old age persons

SECTION II

Distribution of Frequency and Percentage of Experimental and Control group according to their Pre test and Post test level of depression.

Table – 2

Frequency and percentage distribution of experimental and control group old age persons according to their level of depression in pre test and post test.

S.No.	Level of depression		Experimental group		Control group	
			F	%	F	%
1	Pre test	Mild	0	0	3	10.00
		Moderate	24	80.00	22	73.33
		Severe	6	20.00	5	16.67
2	Post test	Mild	10	33.33	2	6.67
		Moderate	19	63.33	24	80.00
		Severe	1	3.34	4	13.33

Table – 2 shows that during pre test among experimental group majority 24 (80%) had moderately depression and 6 (20%) had severe depression.

Regarding post test among experimental group majority 19 (63.33%) had majority depression, and least 1 (3.34%) had severe depression.

Regarding pre test among control group majority 22 (73.33%) had moderate depression, 5 (16.67%) had severe depression and least 3 (10%) had severe depression.

Regarding post test among control group majority 24 (80%) had moderate depression, 4 (13.33%) had severe depression and least 2 (6.67%) had mild depression.

It was inferred that the depression level was reduced after the administration of pet therapy among experimental group whereas control group showed more depression during post test

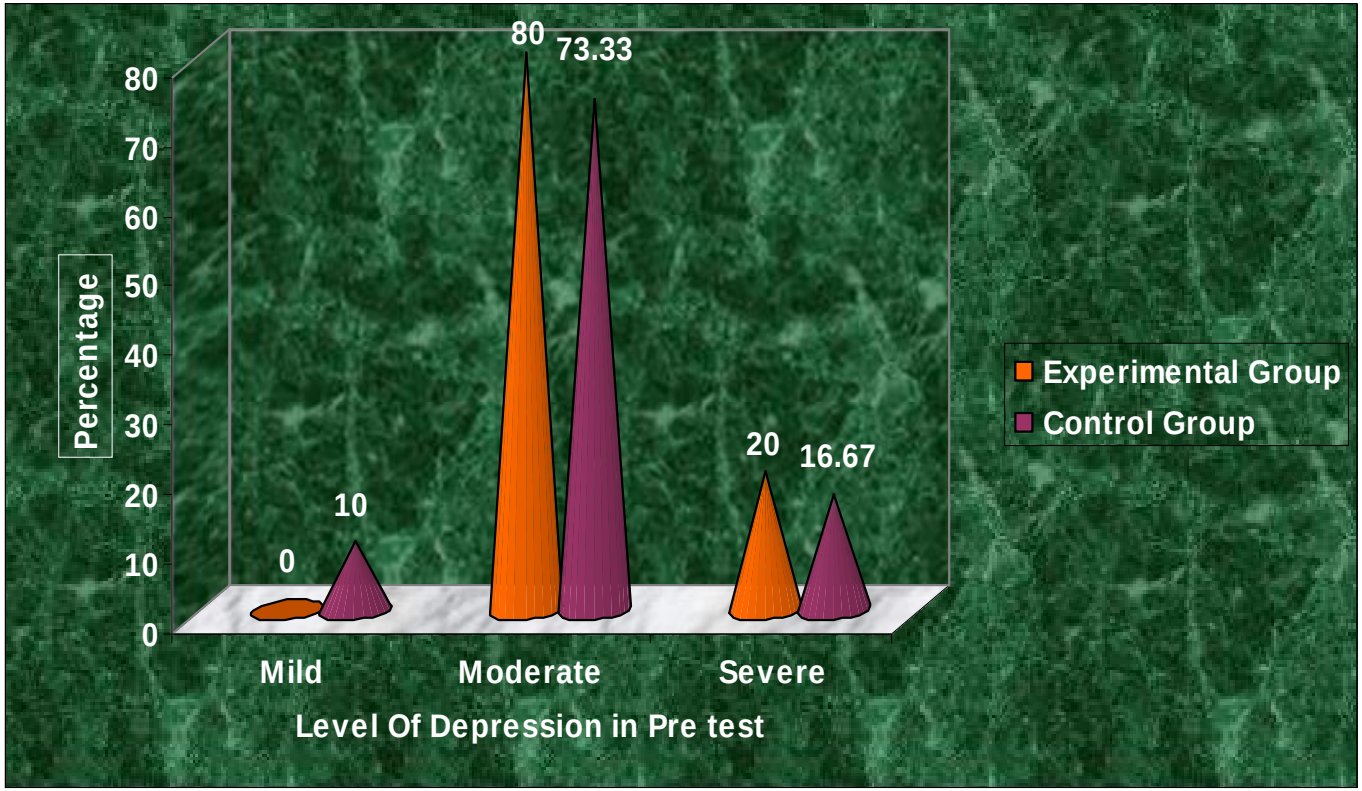

Fig - 13: Percentage Distribution of Experimental and control group old age persons according to their level of depression in pre test.

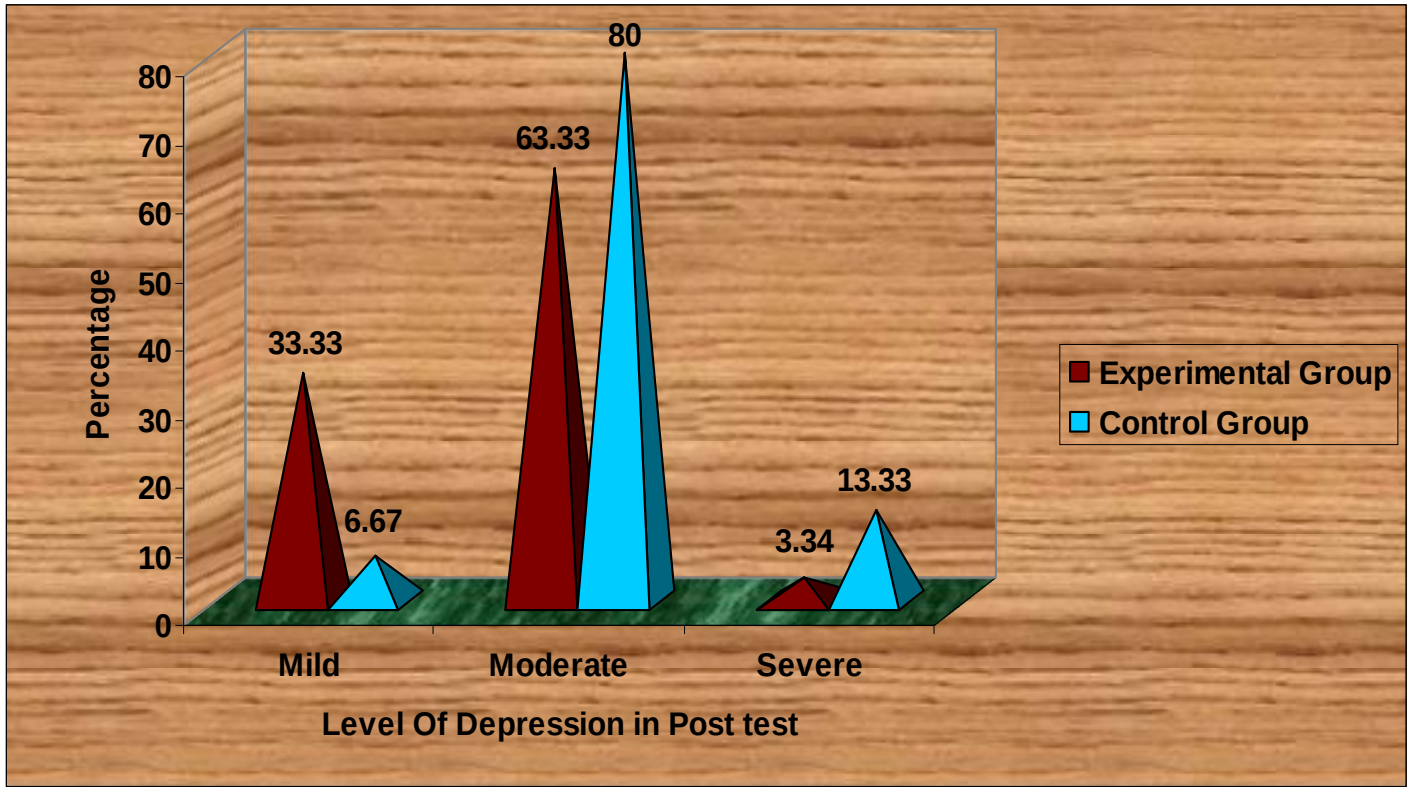

Fig - 14: Percentage Distribution of Experimental and control group old age persons according to their level of depression in post test.

SECTION III

The effectiveness of Pet therapy on depression among old age persons.

Table - 3

Comparison of pre test and post test level of depression in experimental and control group.

S.No.	Variables	Experimental group		't' value	Control group		't' value
		Mean	Standard Deviation		Mean	Standard Deviation	
1	Pre test	16.87	3.627	17.736* ($p<0.05$)	15.80	3.800	0.909# ($p<0.05$)
2	Post test	11.53	3.683		16.03	3.264	

Table – 3:- reveals that the pre test mean and standard deviations of the experimental group were 16.87 and 3.627 respectively and the post test mean and standard deviation were 11.53 and 3.683 respectively.

The pre test mean and standard deviations of the control group were 15.80 and 3.80 respectively and the post test mean and standard deviation were 16.03 and 3.264 respectively.

The obtained 't' value (17.736) of experimental group was significant at 0.05 level.

It was inferred that since the 't' value of experimental group was significant, the stated hypothesis was accepted. The pet therapy was effective in reducing depression among old age persons.

The obtained 't' value (0.909) of control group was not significant at 0.05 level.

It was inferred that since the 't' value of control group was not significant, the stated hypothesis was accepted. The pet therapy was effective in reducing depression among old age persons.

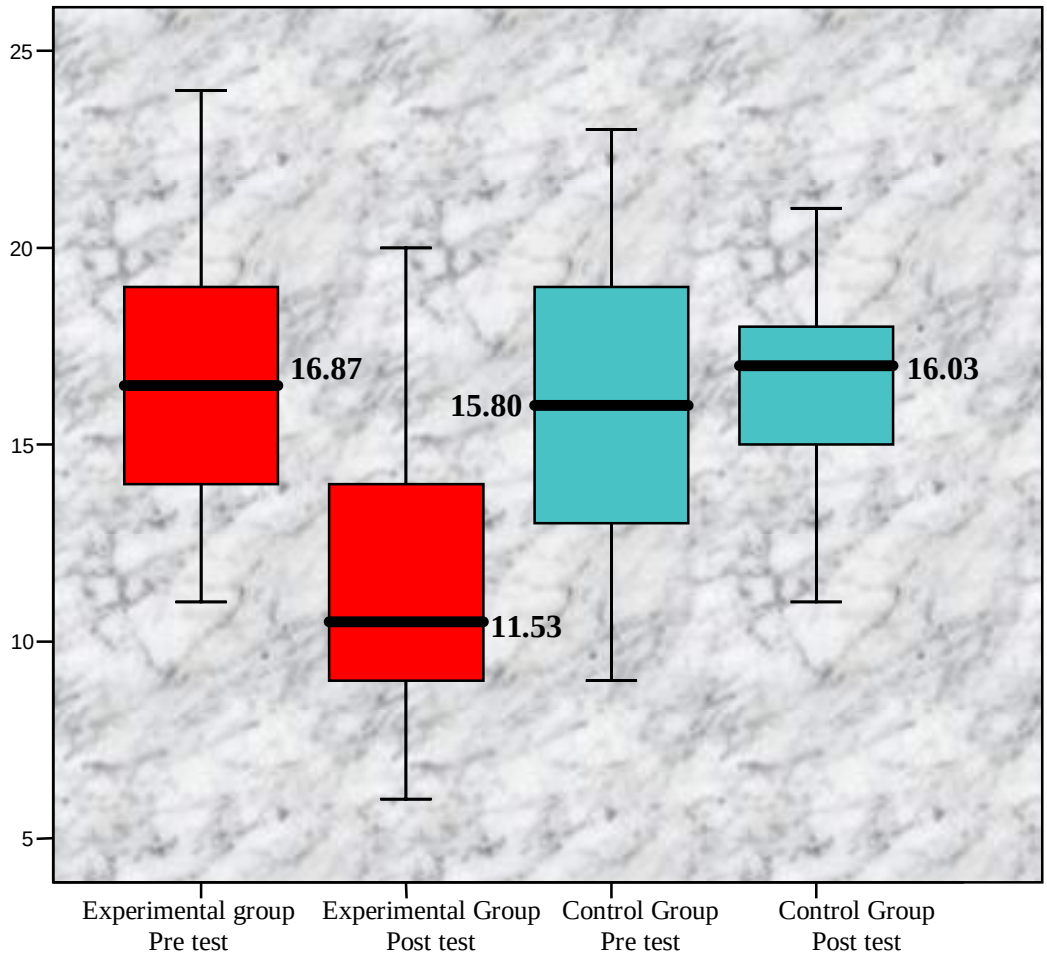

Fig – 15: Box Plot presentation of pre and post test scores of depression of old age persons in experimental and control group.

SECTION IV

Correlation between pre and post test scores of depression among old age persons.

Table -4

Correlation of pre test and post test scores of depression among Experimental and Control Group

S.No.	Variables	Experimental group		Control group	
		Mean	'r' value	Mean	'r' value
1	Pre test	16.87	0.899	15.80	0.932
2	Post test	11.53		16.03	

Table – 4: Reveals that the pre test and post test mean of experimental group were 16.87 and 11.53 respectively.

The pre test and post test 'r' value were 0.899 among experimental group and 0.932 among control group.

The obtained 'r' value among experimental and control group was significant at 0.05 level.

It was inferred that since the 'r' value of experimental group and control group was significant, the stated hypothesis was accepted.

SECTION V

Deals with the Association between Post test level of depression score of Demographic variables of Experimental group.

Table -5

Association between level of depression score of old age persons and the selected demographic variables among experimental group.

N=30

S.No.	Variables	Normal (0 – 9)		Moderate (10 – 19)		Severe (20 – 30)		$\chi 2$
		F	%	F	%	F	%	
1	Age							
	60 to 69	10	33.33	11	36.67	0	0	
	70 to 79	1	3.33	6	20.00	1	3.33	#5.848
	80 to 89	0	0	1	3.33	0	0	df = 4
	90 & above	0	0	0	0	0	0	
2	Sex							
	Male	10	33.33	8	26.67	0	0	*7.694
	Female	1	3.33	10	33.33	1	3.33	df = 2
3	Religion							
	Hindu	3	10.00	4	13.33	1	3.33	#3.333
	Muslim	1	3.33	3	10.00	0	0	df = 6
	Christian	6	20.00	10	33.33	0	0	
	Others	1	3.33	1	3.33	0	0	
4	Education							
	Non formal	1	3.33	5	16.67	1	3.33	#5.557
	Primary	3	10.00	5	16.67	0	0	df = 6
	Secondary	4	13.33	3	10.00	0	0	
	Higher secondary	3	10.00	5	16.67	0	0	
	Graduate	0	0	0	0	0	0	
5	Previous occupation							
	Retired	6	20.00	11	36.67	0	0	#2.300
	Business man	4	13.33	5	16.67	1	3.33	df = 4
	Coolie	1	3.33	2	6.67	0	0	
	Any other	0	0	0	0	0	0	
6	Marital status							
	Unmarried	2	6.67	0	0	0	0	#8.213
	Married	6	20.00	15	50.00	1	3.33	df = 6
	Separated \ Divorced	3	10.00	1	3.33	0	0	
	Widow \ Widower	0	0	2	6.67	0	0	
7	Type of family							
	Nuclear	11	36.67	13	43.33	1	3.33	#4.000
	Joint	0	0	5	16.67	0	0	df = 2
8	Duration of visit by the family members							
	Weekly once	0	0	0	0	0	0	#1.319
	Monthly once	1	3.33	2	6.67	0	0	df = 4
	Yearly once	3	10.00	7	23.33	0	0	
	Never	7	23.33	9	30.00	1	3.33	
9	Hobbies							
	Present	1	3.33	2	6.67	0	0	*6.748
	Absent	10	33.33	16	53.33	1	3.33	df = 2
10	Reason for staying in old age home							
	Family members not accepted	5	16.67	10	33.33	1	3.33	#1.237
	No children	5	16.67	7	23.33	0	0	df = 4
	Orphans	1	3.33	1	3.33	0	0	
	Any other	0	0	0	0	0	0	

#- Not significant at 0.05 level.

* - Significant at 0.05 level.

To find out the association between level of depression of old age persons and selected demographic variables such as age, sex, religion, education, previous occupation, marital status, type of family, duration of visit by the family members, hobbies and reason for staying in the old age home.

The null hypotheses were stated as follows:

H 03: There will be no significant association between the depression score of old age persons and selected demographic variables. In order to find out the association between depression score of the old age persons and selected demographic variables $\chi 2$ was computed.

Association between depression score of the old age persons and their age, the obtained $\chi 2$ value 5.848 at df 4 was not significant. Association between depression score of the old age persons and religion, the obtained $\chi 2$ value 3.333 at df 6 was not significant. Association between depression score of the old age persons and education, the obtained $\chi 2$ value 5.557 at df 6 was not significant. Association between depression score of the old age persons and previous occupation, the obtained $\chi 2$ value 2.300 at df 4 was not significant. Association between depression score of the old age persons and marital status, the obtained $\chi 2$ value 8.213 at df 6 was not significant. Association between depression score of the old age persons and type of family, the obtained $\chi 2$ value 4 at df 2 was not significant. Association between depression score of the old age persons and duration of visit by the family members, the obtained $\chi 2$ value 1.319 at df 4 was not significant. Association between depression score of the old age persons and reason for staying in old age home, the obtained $\chi 2$ value 1.237 at df 4 was not significant.

This shows that there was no association between depression score of old age persons and selected demographic variables (age, religion, education, previous occupation, marital status, type of family, duration of visit by the family members and reason for staying in the old age home). Hence, the researcher was unable to reject the null hypothesis.

Association between depression score of the old age persons and sex, the obtained $\chi 2$ value 7.694 at df 2 was significant. Association between depression score of the old age persons and hobbies, the obtained $\chi 2$ value 6.748 at df 2 was significant.

This shows that there was an association between depression score of old age persons and selected demographic variables (sex and hobbies). Hence the researcher was rejected the null hypothesis and accepted the research hypothesis.

SECTION VI

Deal with the Association between Post test level of depression score of Demographic variables among Control group.

Table -6

Association between level of depression score of old age persons and the selected demographic variables among control group.

N = 30

S.No.	Variables	Normal (0 – 9)		Moderate (10 – 19)		Severe (20 – 30)		$\chi 2$
		F	%	F	%	F	%	
1	Age							
	60 to 69	2	6.67	17	56.67	2	6.67	#7.582
	70 to 79	0	0	7	23.33	1	3.33	df = 4
	80 to 89	0	0	0	0	1	3.33	
	90 & above	0	0	0	0	0	0	
2	Sex							
	Male	2	6.67	12	40.00	4	13.33	*6.020
	Female	0	0	12	40.00	0	0	df = 2
3	Religion							
	Hindu	1	3.33	7	23.33	0	0	#6.797
	Muslim	0	0	2	6.67	2	6.67	df = 6
	Christian	1	3.33	13	43.33	2	6.67	
	Others	0	0	2	6.67	0	0	
4	Education							
	Non formal	1	3.33	6	20.00	0	0	
	Primary	0	0	5	16.67	3	10.00	#8.103
	Secondary	0	0	7	23.33	0	0	df = 6
	Higher secondary	1	3.33	6	20.00	1	3.33	
	Graduate	0	0	0	0	0	0	
5	Previous occupation							
	Retired	0	0	15	50.00	2	6.67	#5.559
	Business man	2	6.67	6	20.00	2	6.67	df = 4
	Coolie	0	0	3	10.00	0	0	
	Any other	0	0	0	0	0	0	
6	Marital status							
	Unmarried	0	0	2	6.67	0	0	#4.034
	Married	1	3.33	18	60.00	3	10.00	df = 6
	Separated \ Divorced	1	3.33	2	6.67	1	3.33	
	Widow \ Widower	0	0	2	6.67	0	0	
7	Type of family							#0.600
	Nuclear	2	6.67	20	66.67	3	10.00	df = 2
	Joint	0	0	4	13.33	1	3.33	
8	Duration of visit by the family members							
	Weekly once	0	0	0	0	0	0	#3.549
	Monthly once	0	0	2	6.67	1	3.33	df = 4
	Yearly once	0	0	8	26.67	2	6.67	
	Never	2	6.67	14	46.67	1	3.33	
9	Hobbies							#0.793
	Present	0	0	3	10.00	1	3.33	df = 2
	Absent	2	6.67	21	70.00	3	10.00	
10	Reason for staying in old age home							
	Family members not accepted	1	3.33	13	43.33	2	6.67	#0.703
	No children	1	3.33	9	30.00	2	6.67	df = 4
	Orphans	0	0	2	6.67	0	0	
	Any other	0	0	0	0	0	0	

#- Not significant at 0.05 level.

*- Significant at 0.05 level.

To find out the association between level of depression of old age persons and selected demographic variables such as age, sex, religion, education, previous occupation, marital status, type of family, duration of visit by the family members, hobbies and reason for staying in the old age home. The null hypotheses were stated as follows:

H 04: There will be no significant association between the depression score of old age persons and selected demographic variables. In order to find out the association between depression score of the old age persons and selected demographic variables $\chi 2$ was computed.

Association between depression score of the old age persons and their age, the obtained $\chi 2$ value 7.582 at df 4 was not significant. Association between depression score of the old age persons and religion, the obtained $\chi 2$ value 6.797 at df 6 was not significant. Association between depression score of the old age persons and education, the obtained $\chi 2$ value 8.103 at df 6 was not significant. Association between depression score of the old age persons and previous occupation, the obtained $\chi 2$ value 5.559 at df 4 was not significant. Association between depression score of the old age persons and marital status, the obtained $\chi 2$ value 4.034 at df 6 was not significant. Association between depression score of the old age persons and type of family, the obtained $\chi 2$ value 0.600 at df 2 was not significant. Association between depression score of the old age persons and duration of visit by the family members, the obtained $\chi 2$ value 3.549 at df 4 was not significant. Association between depression score of the old age persons and hobbies, the obtained $\chi 2$ value 0.793 at df 2 was not significant. Association between depression score of the old age persons and reason for staying in old age home, the obtained $\chi 2$ value 0.703 at df 4 was not significant.

This shows that there was no association between depression score of old age persons and selected demographic variables (age, religion, education, previous occupation, marital status, type of family, duration of visit by the family members, hobbies and reason for staying in the old age home). Hence, the researcher was unable to reject the null hypothesis.

Association between depression score of the old age persons and sex, the obtained $\chi 2$ value 6.020 at df 2 was significant. This shows that there was an association between depression score of old age persons and selected demographic variable (sex). Hence the researcher was rejected the null hypothesis and accepted the research hypothesis.

CHAPTER V

DISCUSSION

The aim of the present study was to assess the effectiveness of pet therapy in reducing depression among old age persons residing at St. Josephs and Ram Aravindar old age homes at Coimbatore. The study was conducted by evaluative research approach and research design were quasi experimental design nonequivalent control group pre test post test design was used. The old age persons above the age of 60 years were selected for the study. The sample size was 60 old age persons, experimental group were 30 and control group were 30. The samples were selected by purposive sampling technique. The Modified Geriatric Depression Scale was used to assess the depression level.

The study findings were discussed in this chapter with reference to the objectives of the study. Among the experimental group, regarding age, majority 21(70%) belonged to the age group of 60 – 69 years 8 (26.67%) belonged to the age group of 70 to 79 years and 1 (3.33%) belong to the age group of 80 to 89 years.

Among the control group, regarding age, majority 21 (70%) belonged to the age group of 60 – 69 years and 9 (30%) belonged to the age group of 70 to 79 years.

Among the experimental group, regarding sex, majority 18 (60%) were males and remaining were females 12 (40%).

Among the control group, regarding sex, majority 16 (53.33%) were females and remaining were males 14 (46.67%).

Among the experimental group, regarding religion, majority were Christians 16 (53.33%), 10 (33.33%) were Hindus and the remaining 4 (13.33%) were Muslims.

Among the control group, regarding religion, majority were Christians 16 (53.33%) and the remaining 14(46.67%) were Hindus.

Among the experimental group, regarding education majority were having the education of primary 8 (26.67%) and higher secondary 8 (26.67%) and the remaining 7 (23.33%) were having the education of non formal and 7 (23.33%) were having secondary education.

Among the control group, regarding education, majority were having the education of non formal 10 (33.33%) and 7 (23.33%) belonged to primary and secondary, 5 (16.67%) belonged to higher secondary and the least 1 (3.33%) belonged to graduate.

Among the experimental group, regarding previous occupation, majority 17 (56.67%) were retired, 10 (33.33%) were business men and the remaining 3 (10%) coolie workers.

Among the control group, regarding previous occupation, majority were 14 (46.67%) retired, 10 (33.33%) belonged to coolie and the remaining 6 (20%) belonged to business.

Among the experimental group, regarding marital status, majority were married 22 (73.33%), 4 (13.33%) were separated or divorced and 2 (6.67%) were unmarried and the rest 2 (6.67%) were widow or widower.

Among the control group, regarding marital status, majority were married 21 (70%), 5 (16.67%) were widow or widower, 2 (6.67%) were unmarried and the remaining 2 (6.67%) were separated or divorced.

Among the experimental group, regarding type of family, majority belonged to nuclear family 25 (83.33%) and the remaining 5 (16.67%) belonged to joint family.

Among the control group, regarding type of family, majority belonged to nuclear family 27 (90%) and the remaining 3 (10%) belonged to joint family.

Among the experimental group, regarding the duration of visit by the family members, majority 17 (56.67%) doesn't have the visit by the family members, 10 (33.33%) visit by the family members yearly once and the remaining 3 (10%) were having the visit by the family members monthly once.

Among the control group, regarding the duration of visit by the family members, majority 23 (76.66%) doesn't have the visit by the family members, 4 (13.33%) were having yearly once visit by the family members, 2 (6.67%) were having weekly once visit by the family members and remaining 1 (3.34%) was having monthly once visit by the family members.

Among the experimental group, regarding hobbies, majority 26 (86.67%) were not having any hobbies and the rest 4 (13.33%) were having hobbies.

Among the control group, regarding hobbies, majority 27 (90%) were not having any hobbies and the remaining 3 (10%) were having hobbies.

Among experimental group, regarding reason for staying in old age home, majority 16 (53.33%) the reason was family members not accepted, 12 (40%) the reason was not having any children and the remaining 2 (6.67%) the reason was orphans.

Among the control group, regarding reason for staying in old age home, majority 23 (76.67%) the reason was family members not accepted and the remaining 7 (23.33%) the reason was not having any children.

The first objective was to findout the level of depression experienced by the old age people before pet therapy in experimental group and control group.

The present study findings revealed that among experimental group pre test score was mild 0(0%), moderate 24(80%) and severe 6(20%). In control group during pre test the scores were mild 3(10.0%), moderate 22(73.33%) and severe 5(16.67%). Among experimental group 10(33.33%) had mild depression, 19(63.33%) had moderate depression and 1(3.34%) had severe depression in post test. In control group during post test 2(6.67%) had mild depression, 24(80%) had moderate depression and 4(13.33%) had severe fatigue. (Table 2).

The second objective was to assess the effectiveness of pet therapy by comparing the pre and post test scores of depression among old age persons in experimental and control group.

The present study reveals that the ‘t’ value (17.736) was significant at 0.05 level ($p<0.05$) among experimental group the mean post test level of depression score (11.53) is lower than the mean pre test depression score (16.87). The difference between mean depression scores of pre test and post

test was significant at 0.05 level. This implies that there was a significant between pre and post test depression scores of old age persons. Table -3 shows that the calculated value was higher than the table value; hence the findings supported the research hypothesis.

The hypothesis (H_{01}) mean post test fatigue score of experimental group (11.53) is less than pre test score (16.87). The mean post test fatigue score of control group (16.03) is higher than mean pre test score (15.80). The difference between the mean fatigue score of pre test and post test was significant at 0.05 level. Hence the findings supported the research hypothesis.

Marieanna C. LE ROUX et.al (2008) conducted an experimental study to evaluate the effectiveness of a pet therapy on depression and anxiety levels of elderly residents in a long-term care facility. A total of 16 residents (eight men and eight women) were randomly assigned to a control group (n = 8) and an experimental group (n = 8). Pet therapy was administered for 2 hours daily for 5 weeks. The Beck Depression Inventory and the Beck Anxiety Inventory (BAI) were used pre- and post-intervention. For control group no significant differences were found on depression and anxiety pre and post mean scores. However, for the experimental group, significant differences were found between pre and post BDI mean scores while the BAI mean score differences were non-significant. The results of this study concluded that pet therapy can make a difference to the depression levels of residents in long-term care facilities.

The third objective was to correlate the relationship between pre and post test scores of depression among experimental and control groups.

The present study findings revealed that the 'r' value of pre and post test score of depression among experimental and control group were 0.899 and 0.932 respectively which was significant at 0.05 level ($p<0.05$). The hypothesis was supported by the study findings. (Table -4).

The fourth objective was to determine the association between post test level of depression and selected demographic variables among experimental group. Table 5 shows that there was no association between age, religion, education, previous occupation, marital status, type of family, duration of visit by the family members and reason for staying in the old age home. The association between sex and hobbies were significant at 0.05 level [($p<0.05$) (table 5)].

The fifth objective was to determine the association between post test level of depression and selected demographic variables among control group. The present study revealed that the association between age, religion, education, previous occupation, marital status, type of family, duration of visit by the family members, hobbies and reason for staying in the old age home were not significant at 0.05 level [($p>0.05$) (table 6)] . The association between sex was significant at 0.05 level [($p<0.05$) (table 6)].

This chapter dealt with the discussion of the study findings with respect to the objectives of the study.

CHAPTER –VI

SUMMARY CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

This chapter deals with summary of the study, conclusion, nursing implication such as nursing practice, nursing education, nursing administration, nursing research and recommendations for further nursing research are presented.

SUMMARY

The purpose of the study was to determine the level of depression of old age persons before and after pet therapy residing at St.Josephs and Ram Aravindar old age homes at Coimbatore district. Non-equivalent control group pre test post test design (quasi-experimental) was used for the study. The conceptual frame work was based upon Modified King's Goal Attainment Theory(1994). The instrument used for data collection was Modified Geriatric Depression Scale regarding old age depression. The purposive sampling method was used to select the sample of 30 experimental group and 30 control group among 60 old age persons at St.Josephs and Ram Aravindar old age homes at Coimbatore district.

The collected data was analyzed by using descriptive statistics (frequency, percentage, mean and standard deviation and inferential statistics (paired 't' test, correlation coefficient 'r' value and chi -square χ^2) statistics to test the study hypothesis.

THE STUDY FINDINGS WERE SUMMARISED AS FOLLOWS

Among the experimental group, regarding age, majority 21(70%) belonged to the age group of 60 – 69 years 8 (26.67%) belonged to the age group of 70 to 79 years and 1 (3.33%) belong to the age group of 80 to 89 years.

Among the control group, regarding age, majority 21 (70%) belonged to the age group of 60 – 69 years and 9 (30%) belonged to the age group of 70 to 79 years.

Among the experimental group, regarding sex, majority 18 (60%) were males and remaining were females 12 (40%).

Among the control group, regarding sex, majority 16 (53.33%) were females and remaining were males 14 (46.67%).

Among the experimental group, regarding religion, majority were Christians 16 (53.33%), 10 (33.33%) were Hindus and the remaining 4 (13.33%) were Muslims.

Among the control group, regarding religion, majority were Christians 16 (53.33%) and the remaining 14(46.67%) were Hindus.

Among the experimental group, regarding education majority were having the education of primary 8 (26.67%) and higher secondary 8 (26.67%) and the remaining 7 (23.33%) were having the education of non formal and 7 (23.33%) were having secondary education.

Among the control group, regarding education, majority were having the education of non formal 10 (33.33%) and 7 (23.33%) belonged to primary and

secondary, 5 (16.67%) belonged to higher secondary and the least 1 (3.33%) belonged to graduate.

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Among the control group, regarding previous occupation, majority were 14 (46.67%) retired, 10 (33.33%) belonged to coolie and the remaining 6 (20%) belonged to business.

Among the experimental group, regarding marital status, majority were married 22 (73.33%), 4 (13.33%) were separated or divorced and 2 (6.67%) were unmarried and the rest 2 (6.67%) were widow or widower.

Among the control group, regarding marital status, majority were married 21 (70%), 5 (16.67%) were widow or widower, 2 (6.67%) were unmarried and the remaining 2 (6.67%) were separated or divorced.

Among the experimental group, regarding type of family, majority belonged to nuclear family 25 (83.33%) and the remaining 5 (16.67%) belonged to joint family.

Among the control group, regarding type of family, majority belonged to nuclear family 27 (90%) and the remaining 3 (10%) belonged to joint family.

Among the experimental group, regarding the duration of visit by the family members, majority 17 (56.67%) doesn't have the visit by the family members, 10 (33.33%) visit by the family members yearly once and the remaining 3 (10%) were having the visit by the family members monthly once.

Among the control group, regarding the duration of visit by the family members, majority 23 (76.66%) doesn't have the visit by the family members, 4 (13.33%) were having yearly once visit by the family members, 2 (6.67%) were having weekly once visit by the family members and remaining 1 (3.34%) was having monthly once visit by the family members.

Among the experimental group, regarding hobbies, majority 26 (86.67%) were not having any hobbies and the rest 4 (13.33%) were having hobbies.

Among the control group, regarding hobbies, majority 27 (90%) were not having any hobbies and the remaining 3 (10%) were having hobbies.

Among experimental group, regarding reason for staying in old age home, majority 16 (53.33%) the reason was family members not accepted, 12 (40%) the reason was not having any children and the remaining 2 (6.67%) the reason was orphans.

Among the control group, regarding reason for staying in old age home, majority 23 (76.67%) the reason was family members not accepted and the remaining 7 (23.33%) the reason was not having any children.

In the pre test score of level of depression score out of 30 old age persons 0(0%) had mild depression, 24(80%) had moderate depression and 6(20%) had severe depression in experimental group.

In the post test score of level of depression score out of 30 old age persons 10 (33.33%) had mild depression, and 19 (63.33%) had moderate depression and 1(3.34%) had severe depression in experimental group.

In the pre test score of level of depression score out of 30 old age persons3(10%) had mild depression, 22(73.33%) had moderate depression and 5(16.67%) had severe depression in control group.

In the post test score of level of depression score out of 30 old age persons 2 (6.67%) had mild depression, 24 (80%) had moderate depression and 4(13.33%) had severe depression in control group.

The pet therapy was found to be effective in reducing the level of depression of old age persons in experimental group. There was a significant reduction in the level of depression among old age persons, regarding depression in the pre test and post test. ('t' = 17.736, $p<0.05$) table (3).

There were significant positive correlation between pre test and post test values of experimental and control group 'r' value 0.899 and 0.932 respectively.

There was no significant association ($p>0.05$) in the level of depression in relation to background factors except sex and hobbies. These two demographic variables has an influence over the level of depression among old age persons in experimental group ($p<0.05$) table (5).

There was no significant association ($p>0.05$) in the level of depression score in relation to the background factors except sex. Sex had an influence over the level of depression among old age persons in control group ($p<0.05$) table (6).

CONCLUSION

The study brought out the following conclusion

1. The experimental group of old age persons regarding level of depression in the post test was significantly less than pre test score.
2. The pet therapy was found to be effective in reducing level of depression among experimental group old age persons.
3. There was significant positive correlation between pre and post test scores of depression among experimental and control groups.
4. There was significant association with level of depression and selected demographic variables like sex and hobbies in experimental group.
5. There was significant association with level of depression and selected demographic variables like sex in control group.

IMPLICATIONS OF THE STUDY

NURSING PRACTICE

- The assessment of level of depression will help the clinical nurse to provide pet therapy.
- The present study helps the nurses to enable old age persons to participate actively in pet therapy by providing them with culturally, sensitive and scientifically accurate information.
- The assessment of level of depression will help the nurses to serve the public for preventing further complications of elderly depression.
- This study help the nurses to improve the services and care for the old age persons.

NURSING EDUCATION

- Student nurses have to update their knowledge regarding new treatments like therapies which is practiced by different countries.
- The faculty members have to motivate the students in group discussions and educate regarding importance of pet therapy among old age persons.

NURSING ADMINISTRATION

- The present study proposed to help the administrators for conducting the public health care educational programs regarding pet therapy among old age persons to give a better quality of life.
- Administrators should motivate the public to involve in scientific meetings regarding pet therapy.
- Administrators in local and state government should take necessary action for publishing the journals regarding pet therapy.
- Administrators have to educate the public through medias regarding elderly depression and its management.

NURSING RESEARCH

- More research studies stimulates recommended, recognizes, support the Physical, medical, genetic, psychological and cultural aspects of elderly depression and its transitions into clinical practice.

LIMITATIONS

- The study was limited to assess the effectiveness of pet therapy regarding the elderly depression.
- The study was limited to the time duration for pet therapy (one month).

RECOMMENDATIONS

Based on the findings of the study the investigator proposed the following recommendation.

- A similar study can be replicated on large sample size.
- A similar study can be done in different settings.
- A similar study can be done in different population.
- A similar study can be replicated for long duration.
- A similar study can be done by using quasi-experimental one group pre and post test study.
- A similar study can be done among old age persons residing at community area.
- A similar study can be done by increasing time duration and sections of pet therapy.

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APPENDIX - A

TOOL DESCRIPTION

SECTION: A

DEMOGRAPHIC DATA

INSTRUCTION

The following items seek information about you; kindly choose the appropriate choice by shading the space provided. The data that are collected will be kept confidential.

1) Age.
    a) 60 – 69. ○
    b) 70 – 79. ○
    c) 80 – 89. ○
    d) 90 & above. ○

2) Sex.
    a) Male. ○
    b) Female. ○

3) Religion.
    a) Hindu. ○
    b) Muslim. ○
    c) Christian. ○
    d) Others. ○

4) Education.
    a) Non formal. ○
    b) Primary. ○
    c) Secondary. ○
    d) Higher secondary. ○
    e) Graduate. ○
5) Previous Occupation.
    a) Retired. ○
    b) Business man. ○
    c) Coolie. ○
    d) Any other (Specify) _____
6) Marital status.
    a) Unmarried. ○
    b) Married. ○
    c) Separated\ Divorced. ○
    d) Widow\Widower ○
7) Type of family which you belonged.
    a) Nuclear. ○
    b) Joint. ○
8) Duration of visit by the family members.
    a) Weekly once. ○
    b) Monthly once. ○
    c) Yearly once. ○
    d) Never. ○
9) Hobbies.
    a) Present. ○
    b) Absent. ○

10) Reason for staying in the old age home.

a) Family members not accepted. ○

b) No children. ○

c) Orphans. ○

d) Any other. (Specify). _____

SECTION: B

MODIFIED GERIATRIC DEPRESSION SCALE

INSTRUCTION

The following items seek information about depression. The respondents are requested to read each item carefully and place tick (✓) mark in the appropriate column. Kindly do not leave any item without response.

1.	Are you basically satisfied with your life?	Yes ☐	No ☐
2.	Have you dropped many of your activities and interests?	Yes ☐	No ☐
3.	Do you feel that your life is empty?	Yes ☐	No ☐
4.	Do you often get bored?	Yes ☐	No ☐
5.	Are you hopeful about the future?	Yes ☐	No ☐
6.	Are you bothered by thoughts you can't get out of your head?	Yes ☐	No ☐
7.	Are you in good spirits most of the time?	Yes ☐	No ☐
8.	Are you afraid that something bad is going to happen to you?	Yes ☐	No ☐
9.	Do you feel happy most of the time?	Yes ☐	No ☐
10.	Do you often feel helpless?	Yes ☐	No ☐
11.	Do you often get restless and fidgety?	Yes ☐	No ☐
12.	Do you prefer to stay at home rather than go out and do things?	Yes ☐	No ☐

13. Do you frequently worry about the future? Yes ☐ No ☐

14. Do you feel you have more problems with memory than most? Yes ☐ No ☐

15. Do you think it is wonderful to be alive now? Yes ☐ No ☐

16. Do you feel downhearted and blue? Yes ☐ No ☐

17. Do you feel pretty worthless the way you are now? Yes ☐ No ☐

18. Do you worry a lot about the past? Yes ☐ No ☐

19. Do you find life very exciting? Yes ☐ No ☐

20. Is it hard for you to get started on new projects? Yes ☐ No ☐

21. Do you feel full of energy? Yes ☐ No ☐

22. Do you feel that your situation is hopeless? Yes ☐ No ☐

23. Do you think that most people are better off than you are? Yes ☐ No ☐

24. Do you frequently get upset over little things? Yes ☐ No ☐

25. Do you frequently feel like crying? Yes ☐ No ☐

26. Do you have trouble concentrating? Yes ☐ No ☐

27. Do you enjoy getting up in the morning? Yes ☐ No ☐

28. Do you prefer to avoid social occasions? Yes ☐ No ☐

29. Is it easy for you to make decisions? Yes ☐ No ☐

30. Is your mind as clear as it used to be? Yes ☐ No ☐

Scoring

Mild Depression. - 1 – 9.

Moderate Depression. - 10 – 19.

Severe depression. - 20 – 30.

APPENDIX - C

CHERRAAN'S COLLEGE OF NURSING

(Affiliated to the Tamilnadu Dr. M.G.R. Medical University, Chennai - 32.
Approved by Indian Nursing Council, New Delhi and Tamilnadu Nurses and Midwives Council, Chennai)
New No. 521 (Old No. 278-A) Siruvani Main Road, Telungupalayam Pirivu,
COIMBATORE - 641 039, Tamilnadu, India.
Ph : 91-422 2343380, 2341066, 2346194, Fax : 91-422 2341066
E-mail : cihs2002@yahoo.co.in

Date :

From,

Jose John,
MSc (N) II year,
Cherraan's College Of Nursing,
Coimbatore.

To,

Ram Arvindar Old age Home,
Maharani Avenue,
5th Street,
Vadavalli,
Coimbatore.

Through,

The Principal,
Cherraan's College Of Nursing,
Coimbatore.

Respected Sir\ Madam,

Sub: Requisition for getting permission to conduct a research.

I am student of MSc: Nursing II year of Cherraan's college of nursing, Coimbatore affiliated to Tamil Nadu Dr. M.G.R Medical University, Chennai. As partial fulfillment of MSc nursing programme, I am conducting a study on

"Effectiveness of pet therapy on depression among old age people residing in selected old age homes at Coimbatore".

Here I kindly request you to grant me the permission to conduct the research in your prestigious institution.

Thanking you.

Yours Obediently.

(Jose John)

Place. Coimbatore
Date. 22-7-09

Principal
Cherraan's College of Nursing
278-A, Siruvani Main Road
Telungupalayam Pirivu
Coimbatore-641 039.

APPENDIX - D

CHERRAAN'S COLLEGE OF NURSING

(Affiliated to the Tamilnadu Dr. M.G.R. Medical University, Chennai - 32.
Approved by Indian Nursing Council, New Delhi and Tamilnadu Nurses and Midwives Council, Chennai)
New No 521 (Old No. 278-A) Siruvani Main Road, Telungupalayam Pirivu.
COIMBATORE - 641 039, Tamilnadu, India.
✆ 91-422 2343380, 2341066, 2346194, Fax 91-422 2341066
E-mail : cihs2002@yahoo.co.in

Date :

REQUISITION FOR CONTENT VALIDITY

From,

Mr. Jose John.
MSc. (N) II year,
Cherraan's College Of Nursing,
Coimbatore.

To,

Through,

The Principal,
Cherraan's College Of Nursing,
Coimbatore.

Respected Sir\ Madam,

Sub: Requisition for expert opinion and suggestion for content validity of the tool.

I am student of MSc: Nursing II year of Cherraan's college of nursing, Coimbatore affiliated to Tamil Nadu Dr. M.G.R Medical University, Chennai, as partial fulfillment of MSc nursing programme, I am conducting a study,

"Effectiveness of pet therapy on depression among old age people residing at selected old age homes at Coimbatore".

Here with I am sending the developed tool for content validity and for your expert opinion and possible suggestion. It will be very kind of you to return the same to the undersigned at the earliest possible.

Thanking you.

Yours faithfully.

(Jose John)

Date: 22-7-09
Place: Coimbatore

Principal
Cherraan's College of Nursing
278-A, Siruvani Main Road
Telungupalayam Pirivu
Coimbatore-641 039.

APPENDIX - E

FORMAT FOR CONTENT VALIDITY

Name of the expert :

Address :

Total Content for the tool : Adequate/ Inadequate kindly validate each tool and tick ($\surd$)wherever applicable.

S.No.	No. of Tool/Section	Strongly Agree	Agree	Need Modification	Remarks

Signature of the expert with date

CONTENT VALIDITY CERTIFICATE

I Here by certify that I have validated the Tool of 30083201 M.SC(N) II year who is under taking “A QUASI - EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF AEROBIC EXERCISE IN REDUCING CANCER RELATED FATIGUE AMONG CANCER PATIENTS UNDERGOING EXTERNAL RADIATION THERAPY IN CHRISTIAN FELLOWSHIP COMMUNITY HEALTH CENTER, AT AMBILIKKAI, DINDIGUL DISTRICT”.

Place: Signature of the expert

Date :

Designation

APPENDIX - F

LIST OF EXPERTS WHO VALIDATED THE TOOL

1. Sr. Saley Scaria,
   Principal,
   Mercy College Of Nursing,
   Valakom.

2. Mrs Boncy Mathew,
   Vice Principal,
   KIMS College of Nursing,
   Trivandrum.

3. Mr. Jinu Abraham,
   Vice Principal,
   Nightingale College of Nursing,
   Trivandrum.

4. Dr. Abdul Bary,
   Medical Superintendent,
   Mental Health Centre,
   Oolampara, Trivandrum.

5. Dr. Santhosh Babu,
   Psychologist,
   Mental Health Centre,
   Oolampara, Trivandrum.